Macroeconomic Policies for Growth, Employment and Poverty Reduction in Yemen

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Abbreviations and Acronyms

BDS	Business Development Support
CACB	Cooperative Agricultural Credit Bank
CBS	Central Bureau of Statistics
CBY	Central Bank of Yemen
CD	Certificate of Deposit
CPI	Consumer Price Index
CSO	Central Statistical Office
DRDI	Domestic Resources for Development and Investment
EFARP	Economic, Financial and Administrative Reform Programme
EU	European Union
FAO	Food and Agriculture Organization
FDI	Foreign Direct Investment
GAFTA	Great Arab Free Trade Area
GCC	Gulf Cooperation Countries
GDP	Gross Domestic Product
GNI	Gross National Income
GoY	Government of Yemen
GST	General Sales Tax
HACCP	Hazard Analysis Critical Control Points
HBS	Household Budget Survey
HDR	Human Development Report
IFS	International Financial Statistics
ILO	International Labour Organization
IMF	International Monetary Fund
I-PRSP	Interim Poverty Reduction Strategy Paper
LDCs	Least Developed Countries
MDGs	Millennium Development Goals
MEGTWG	Macroeconomic & Employment Generation Thematic Working Group
MENA	Middle East and North Africa
MSMEs	Medium, Small and Medium Enterprises
NABARD	National Bank for Agriculture and Rural Development
NBY	National Bank of Yemen
NFD	Net Foreign Demand
NGO	Non-Governmental Organisation
NPS	National Poverty Survey
NSIC	National Small Industries Development Corporation
ODA	Official Development Assistance
PCFs	People's Credit Funds
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
RBI	Reserve Bank of India
REER	Real Effective Rate
SEDU	Small Enterprises Development Unit
SEFM	Strengthening Economic and Financial Management

SFCs	State Financial Corporations
SIDBI	Small Industries Development Bank of India
SMEs	Small and Medium Enterprises
TB	Treasury Bills
TIFA	Trade and Investment Framework Agreement
UNDP	United Nations Development Programme
VBARD	Viet Nam Bank for Agriculture and Rural Development
VBP	Viet Nam Bank of the Poor
VTCs	Vocational Training Centres
WDI	World Development Indicators
YBRD	Yemen Bank for Reconstruction and Development
YCR	Yemen Country Report
YR	Yemeni Rials

Table of Contents

List of Tables and Boxes

List of Figures

Acknowledgments

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Initial results from the study, and its methodology, were presented in several workshops at the Ministry of Planning and International Cooperation, which were attended by Yemeni intellectuals, key line ministry officials and donor community in Sana'a.

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Finally, it is with great sadness that we report the loss of John Roberts, who had a significant contribution to the sections on macroeconomics and poverty. He will be truly missed.

Preface

This report on the Macroeconomics of Poverty Reduction in Yemen is part of a global UNDP-supported project that started in 2001 and has grown to encompass policy-oriented research, advisory services and capacity development in 25 developing countries. Among the Arab States, UNDP has supported similar studies in Morocco, Sudan and Syria.

The primary audience is national policymakers and the report aims to present them with practical policy options and alternatives and to broaden the national dialogue on such choices. The policy analysis within the report delineates the major 'stylized facts' of the economy and explores its responsiveness to the macroeconomic framework – so as to permit informed judgments on the most suitable alternative policies. Thus the overriding objective of is to offer policymakers a choice of feasible options for pro-poor and pro-growth economic policies and begin a process of strengthening national capacity to accelerate progress towards the MDGs –particularly the first goal on poverty reduction.

Thus far policy choices have been constrained by the conditionalities attached to balance-of-payments or structural adjustment loans – which have presented a uniform set of recommendations on economic policies. At the same time that governments were being subjected to such conditionalities, they were encouraged – usually by the same lenders – to formulate 'nationally owned' Poverty Reduction Strategies. Clearly, there is a contradiction between imposing conditionalities and promoting 'national ownership'. UNDP, on the other hand, has mounted a major effort in recent years to provide governments with a broader menu of policy options.

This report follows in this broad tradition and, similar to other reports, it focuses on fostering growth with equity. It also gives high priority to reducing unemployment and underemployment. As UNDP-supported reports in other countries have found, this focus is critical: growth cannot be translated effectively into poverty reduction without creating broad-based employment.

One of the major policy lessons is that the state will have to play an active role in the economy. This will mainly be through public investment and allocating credit to stimulate growth and employment – taking care to concentrate resources as far as possible on reducing poverty. Indeed, given the focus on achieving the MDGs, much of the growth in Yemen is likely to originate with public investment which, if it is designed to raise the productivity of capital and labour, will boost private investment.

This calls therefore for 'investment-led' growth. Many of the other UNDP-supported reports have advocated a similar approach. They have not made the standard neo-liberal assumption that increasing public investment will 'crowd out' private investment. In fact they have pointed out that in many developing countries, overall tax revenues are not, as is often assumed, too high, but too low. For financing public investment the state will therefore need to mobilize more revenue.

The Yemen report shares many of the positions taken in other UNDP-supported studies. It calls for more expansionary, public investment-focused macroeconomic policies and an increase in tax revenue, while mobilizing domestic resources in order to finance this fiscal expansion. It also advocates that public policies focus on employment generation and that industrial policies should be used to strengthen the economic sectors that are potential sources of growth and job creation. Taken together, the report's package of policy recommendations should help set Yemen on a sustainable path of growth, employment and poverty reduction.

Chapter One
Methodology and Scope

Yemen is a 'Least Developed Country' (LDC) and has many of the features common to such economies, such as a very low per capita income, a high degree of vulnerability to external and internal shocks, and a high prevalence of extreme poverty.

It has, however, been taking steps to strengthen the economy. Thus since the mid-1990s the government has embarked on a remarkably rapid and effective macroeconomic stabilization and adjustment programme. It has pursued a prudent fiscal policy and particularly a tight monetary policy – helped by rising oil export revenues which have reduced large budget deficits and created substantial surpluses in the balance of payments leading to a large build-up of foreign exchange reserves. At the same time it brought price inflation under control – though recently inflation has risen back to double-digit levels).

The Government has also been liberalizing trade. It has effectively dismantled quantitative trade restrictions, simplified and substantially reduced import tariffs and implemented current account and capital account convertibility. As a result, according to standard indicators, compared with other developing countries Yemen now has one of the most open economies. It has also taken long strides towards price reform – removing food subsidies, for example, and gradually phasing out fuel subsidies. Since 1995 the real (official) exchange rate has fallen by close to 100%, though in recent years there has also been a relatively more stable unified exchange rate. At the same time, real interest rates have been increased to well over 5%.

In other are as the results have been more disappointing – particularly in private sector growth, export growth, and poverty reduction. During the past five years per capita GDP growth has fluctuated between 0.4% and 1.8% per annum. And since 1997 private sector investment as a share of national disposable income has declined by over 10 percentage points. Over the same period non-oil exports have remained stagnant and both underemployment and unemployment remain high. In a country where a large part of the population already lives below the poverty line a continuation of such trends would undoubtedly undermine sustainable growth and poverty reduction.

This report is part of a much larger UNDP-supported global project that started in 2001, and now has grown to encompass policy-oriented research, advisory services and capacity development in 25 developing countries. Among the Arab States, UNDP has supported similar reports in Morocco, Sudan and Syria.

It provides an alternative to the uniform set of recommendations that typically arise from the conditionalities accompanying balance-of-payments or structural adjustment loans. Several influential studies have shown that these 'good economic policies', as defined by the World Bank and the IMF, have no statistically significant benefits for

poverty reduction.[1] Indeed in recent years many more people have been questioning the positive association between liberal economic policies and growth.[2]

For developing countries, Easterly (2003) established that the proposition is based on the assumption that countries are starting with extremely bad policies – implying that countries starting from moderate values for the policy indicators are not likely to see any improvements.[3] Moreover, Abdel Gader A. (2004), using the Easterly specification among others, shows for a sample of 8 reforming Arab countries over the period 1960-2000 that conventional policy variables either had no effect on the growth rate of real per capita GDP or that they actually reduced growth. The situation is different however, for the 'investment rate', defined as the ratio of investment to GDP. A number of researchers have found this to be a statistically significant determinant of the growth rate.[4] Thus, if governments want to use growth as a channel for poverty reduction they would do better to focus on investment, including public investment.

Another consideration is inequality – as measured by the Gini coefficient. Evidence from the World Bank and the IMF, shows that inequality is not reduced by conventional macroeconomic policies while it is reduced by 'public policies', in the form of 'social transfers' and 'public employment'[5]. The entry point for discussion of policy options for poverty reduction should therefore be public policy, rather than conventional macroeconomic policies

This report calls for more expansionary, public-investment focused macroeconomic policies. It argues for using economic policies for 'solving' as much as possible of the poverty problem while using complementary social policies.

This case study follows the general analytical framework that has been used in many other studies on Economic Policies and Poverty Reduction supported by the United Nations Development Programme – though it also focuses more on issue that are of particular national interest.

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[1] See, for example, P-R. Agenor (1998), "Stabilization Policies, Poverty and the Labour Market", IMF, Washington D.C.; Ali, A.A.G., (2002), "Macroeconomic Policies and Poverty Reduction", AERC, Nairobi; Demery, L., and L. Squire, (1996), "Macroeconomic Adjustment and Poverty in Africa: An Emerging Picture", World Bank Research Observer, vol. 11, no. 1; and Christiaensen, L., Demery, L., and S. Paternostro, (2003), "Macro and Micro Perspectives of Growth and Poverty in Africa", World Bank Economic Review, vol. 7, no. 3; and Dollar, D., and A. Kraay, (Growth is Good for the Poor, Journal of Economic Growth, vol. 7, no. 1).

[2] Acemoglu, D., Johnson, S., Robinson, J., and Y. Thaicharoen, (2003), "Institutional Causes, Macroeconomic Symptoms: Volatility, Crises and Growth", Journal of Monetary Economics, vol. 50, no. 1; Easterly, W., and R. Levine, (2003), "Tropics, Germs and Crops: How Endowments Influence Economic Development", Journal of Monetary Economics, vol. 50, n0. 1; Rodrik, D., Subramanian, A., and F.Trebbi, (2004), "Institutions Rule: The Primacy of Institutions over Geography and Integration in Economic Development", Journal of Economic Growth, vol. 9, no. 2.

[3] Easterly, W., (2003), National Policies and Economic Growth: A Reappraisal", Working Paper no. 27, Center for Global Development, www.cgdev.org. The range for moderate values used by Easterly are as follows: inflation rate and black market premium in the closed interval [-.05, 0.35]; budget deficit as a ratio of GDP [-0.12, 0.02]; overvaluation index [-0.4, 0.65] with index above zero indicating overvaluation; and trade (exports plus imports) as a ratio of GDP less than 1.2.

[4] For such results see, among others, Ali, A.A.G., (2004), "Do Macroeconomic Policies Affect the Growth Rates of Developing Countries"; Experts Group Meetings' Series, no. 10, Arab Planning Institute, Kuwait (in Arabic).

[5] See, for example, Bulir, A., (2001), "Income Inequality: Does Inflation Matter?", IMF Staff Papers, vol. 48, no. 1.

The taskforce missions that preceded the study identified some key issues and concerns.

Low government expenditure – Compared with the needs in a country that has poor infrastructure and high levels of poverty, development expenditure is low. It is constrained by the low tax rates: while other low-income countries have tax rates close to 15% of GDP, the proportion in Yemen is no more than 7%. Some of the mission members pointed out however that the difference is much smaller if tax rates are considered as share of the non-oil GDP so the potential for raising taxes may not be that great – and that raising taxes could harm the poor or those living close to the poverty line. Some donors also raised the issue of fiscal transparency, as well as the political constraints on fiscal policy.

Tight monetary policy – Financial markets in Yemen are very thin and some people believe that the Central Bank of Yemen's tight monetary policy has hampered private investment and that over time high interest rates will have an impact on government finances. Other missions raised the issue of coordination between fiscal policy and monetary policy – arguing that the lack of such coordination has weakened private sector activities. Possible symptoms of this phenomenon are stagnant private investment and the rapid build-up of foreign reserves which could hinder proper adjustment to external shocks.

Rapid liberalization – During a period of rapid economic liberalization the government has paid insufficient attention to the sequencing of different aspects of economic reform. It has also neglected institutional reform and capacity building indeed to ensure a commensurate response from private sector investment. Indeed some believed that the speed of economic liberalization has made institutional reform and capacity building more difficult.

Low absorptive capacity – A number of donors were concerned about low absorptive capacity in the economy – though most ministries and national institutions said that the main constraint on private and public investment for export promotion was the lack of finance – for modernizing the fisheries industries, for example, and investing in infrastructure to induce foreign investment in mining.

Low productivity – There is a general feeling that poverty reduction will remain elusive, unless attention is paid to policies that can remove the constraints on productivity growth in agriculture, as well as policies for productive employment generation in the economy at large.

Based on this general analytical and methodological framework, this report examines two major issues: first, how to make macroeconomic policies more pro-poor – the entry point and focus; second, how to enhance the impact of these macro-level policies by 'augmenting the entitlements' of the poor – the complementary theme.

'Macroeconomics' in this context is defined broadly to include short-term policies for macroeconomic stabilization, long-term macroeconomic policies to stimulate growth and policies of structural adjustment that alter the functioning of the market economy

and its relationship to the public sector. In examining entitlements, the report emphasizes the need to improve the 'supply-side conditions' of the poor – their access to economic opportunities, such as assets, productive inputs, technology and employment, and their ability to save and invest.

A major impediment to poverty reduction is inequality – which not only excludes the poor from the benefits of growth but can also lower growth itself. These policies should help to reduce poverty through faster growth and greater equity as well as the interaction between the two. Nevertheless, there are certain trade-offs between growth and greater equity, especially with regard to the utilization of scarce public resources. The policies recommended in this report imply relative losses for some social groups and relative gains for others; the objective is to maximize the gains for the poor while striving to benefit everyone.

The main question, however, is: how can policy makers promote complementarities between growth and redistribution? This would involve not only generating an inequality-reducing pattern of growth but also undertaking a growth-enhancing pattern of redistribution. At the same time policymakers should aim to minimize the trade-offs between current growth-focused policies and redistributive measures.

The governing assumption is that measures for redistribution should be treated not as an entirely separate policy sphere but integrated, as much as feasible, with policies for promoting growth. The desired outcome is a pattern of growth that will deliver 'absolute' benefits to both poor and non-poor while also allowing the poor to make relatively greater gains. This will require pro-poor macroeconomic and adjustment policies. But these will not be sufficient; it will also be necessary to carry out redistributive measures that alter the basic functioning of the land, capital and labour markets so as to effectively 'integrate' the poor into the growth process.

Our approach to 'pro-poor growth' strategies stems from UNDP's 2002 Policy Note: "The Role of Economic Policies in Poverty Reduction" (UNDP 2002: www.undp.org/poverty/propoor.htm). This concentrates on how growth is generated and whether this process is equitable – focusing on the economic opportunities of the poor – their access to the assets, resources and employment that can enable them to secure a decent standard of living and thereby significantly widen their options for human development. It maintains that if countries are to reach the MDG target of halving extreme income poverty by 2015 they will certainly need rapid growth, but that they will stand a much greater chance of reaching the target if the growth is also more equitable – so that the incomes of the poor grow faster than average.

If it is to significantly improve the absolute condition of the poor, growth will thus need to be rapid. But it also needs to be sufficiently equitable to improve their relative position. This can be achieved at the start of the growth process – through universalizing coverage of education and health services, for example. Or it can be achieved over time: for example, by boosting employment among low-skilled workers and increasing their wages.

Equity-based growth can be achieved through a variety of strategies. The choice depends in part on each country's initial conditions. In general, if the growth is to reduce poverty immediately it should be such as to direct resources disproportionately to the sectors in which the poor work, such as small-scale agriculture, the areas in which they live, such as underdeveloped regions, or the factors of production that they possess, such as unskilled labour or land.

This strategy would reach the poor where they are to be found. It would decidedly improve the relative position of poor households and generate employment, even if the rise of real incomes might be slower than optimal.

The longer-term objective of all development, of course, is to allow workers to move out of low-productivity sectors, poorly resourced regions and low-skilled employment. Generally this would mean leaving agriculture for industry and more modern services. Some growth strategies emphasize this objective in the medium term, and tend to downplay equity until growth accelerates.

This alternative approach assumes that rapid and broad industrial growth will reduce poverty by pulling poor workers into higher-productivity, higher-paid jobs. In the past, some countries have achieved this through import-substitution strategies. Nowadays, some countries have successfully emphasized the exports of manufactures – though this is unlikely to reduce inequality in the short term and may even increase it. If inequality is indeed reduced, it is more likely to be due to initial prosperity in agriculture or an initially equitable distribution of endowments, such as land or human capital.

This report argues for expansionary, investment-focused fiscal policies and for appropriate monetary policies that do not target very low inflation rates. Instead of the orthodox focus on allocative efficiency and price stabilization it puts a premium on boosting domestic savings and investment. It also advocates using public investment as a stimulus to private investment.

This implies a more active policy role for the state – and often the need for a larger revenue base to finance capital expenditures that can be directed to poverty-reduction. In Yemen, however, where public investment has been inefficient and aggregate savings have outweighed aggregate investment, this would imply reforming the public sector so it could invest more productively – as well as restructuring financial institutions so that they could lend more for private investment.

While financial liberalization is often necessary, it does not always lead to the desired results. Commercial banks are often reluctant to lend for long-term private investment – leading, for example, to a high spread between their deposit and lending rates. Moreover, banks are also often reluctant to lend in rural areas, particularly for agricultural activities, and are rarely interested in lending to poor households.

Greater trade openness can certainly boost growth and help reduce poverty. But not necessarily. Indeed it can exacerbate inequality and cause any growth that occurs to

bypass the poor, especially the rural poor. Trade liberalization needs to be complemented with other more pro-active, poverty-focused measures – such as building rural infrastructure, financing agricultural development and providing adequate credit to small and medium enterprises,. To be most effective, liberalization of trade should thus be designed carefully and often combined with some import substitution policies and pro-active industrial strategy.

Linking growth to poverty reduction involves generating widespread employment at decent wages. This cannot, however, be based simply on self-employment and micro-enterprises; these may raise incomes but cannot on their own guarantee secure and remunerative employment. Instead the emphasis has to shift to small and medium enterprises, and to large enterprises that are both employment-intensive and skill enhancing.

The Major Entry Points

This case study encompasses six major entry points, organized in two clusters. The first cluster is macroeconomic policies, which include:

- Monetary policy
- Fiscal policy
- Exchange rate policies

As the chief basis for stimulating investment and growth, standard monetary policy is concerned primarily with maintaining price stability, expressed as a low inflation rate. And under standard policies of macroeconomic stabilization, fiscal policy is concerned primarily with maintaining fiscal balance. This approach assumes that when fiscal balance is not achieved, the financing of the consequent deficit can have a crucial impact on either the interest rate or the inflation rate or both – depending on whether deficits are financed by debt or money creation.

Aiming to maintain macro balances, many countries, fearing a rise of inflation, have maintained excessively restrictive policies of macroeconomic stabilization. As a result, they have been deprived of resources for financing the investment needed to spur growth. This report on the other hand is concerned with how macroeconomic policies can become more expansionary – reducing poverty by generating higher rates of growth and employment. Macro balances, such as the current-account and the fiscal balances are evaluated chiefly as constraints rather than goals of policy.

Macroeconomic policies have impacts on both the demand and supply sides. The report investigates therefore how the constraints of macroeconomic balances can be met without depressing demand and therefore investment. And on the supply side, it investigates how fiscal policy can be used not to restrict supply but augment it. Pro-poor growth helps this in two ways: limiting damaging impacts on the income of the poor helps to maintain aggregate demand; and actively augmenting the capabilities of the poor strengthens the supply response.

Seeking policies that are complementary to macroeconomic and adjustment policies, this report examines fiscal policies comprehensively, including both expenditures and taxes. Specifically, it evaluates whether the public budget is allocating resources in a pro-poor manner and whether the government is mobilizing public revenue in an equitable fashion.

Thus, the main macroeconomic policy question is: are there a feasible set of fiscal, monetary and exchange-rate policies that can reduce poverty while maintaining macro balances within sustainable, manageable limits?

The second major cluster of policies concern adjustment:

- Financial liberalization
- Trade liberalization
- Deregulation

The main question is: what impact has each of these structural policies had on poverty? And if the impact has been adverse, or substantially less positive than expected, what alternative methods and forms of restructuring can foster greater growth and equity?

To answer these questions the report analyses the major structural features of the economy, its initial conditions and the major characteristics of the poor. Although it advocates macroeconomic policies that are less restrictive and for adjustment policies that are more investment oriented, it recognizes that the success of these reforms hinge on altering some of the structural features of the economy or the characteristics of the poor.

This study does not rely solely on modelling or simulation exercises but on a rich country-specific narrative that reflects changes in the macroeconomic framework. The primary audience is national policymakers – offering them a choice of feasible pro-poor and pro-growth economic policies that can strengthen national capacity to accelerate progress towards the MDGs

Sectoral Policies

This report focuses primarily on macro-level policies but also encompasses a broader range of complementary policies that can reinforce poverty impacts or reduce constraints. These, which may also be preconditions for successful macroeconomic and adjustment policies, include other economic policies, other structural reforms, social policies, redistributive measures and poverty-focused initiatives.

Successful macro-level policies will depend also on 'microeconomic' reforms, such as improving the capabilities of the poor and their access to productive assets and resources. In elaborating policy recommendations, the report necessarily touches on a number of other complementary policies:

Budgetary re-allocations – How can the government budget –on both the expenditure and revenue sides – be used to reduce poverty? How does access to public resources and assets, especially access to physical infrastructure and economic services, help reduce poverty? How can the taxation system be made more pro-poor? The report addresses these and other issues concerning the 'composition' of fiscal policies.

Sectoral or regional policies – To what extent can sectoral policies, such as stimulating agriculture, contribute to reducing poverty –by lowering inter-sectoral inequality, for example? What role can the re-allocation of resources to poor regions play? How can policies of restructuring, including trade and financial sector policies, be used to support pro-poor growth?

Redistribution of assets – How can assets, such as land and housing, be redistributed so as to reduce poverty?

Employment generation – What labour market policies are needed to convert growth into productive and remunerative employment, particularly for the working poor?

Developing human capabilities – How can social policies, such as those on health, education and nutrition, enhance the ability of the poor to access economic opportunities?

The Descriptive Narrative

The report describes trends in economic variables, inequality and poverty so as to better evaluate macroeconomic and adjustment policies. It examines the institutional arrangements that determine access to assets, resources and employment and tries to identify the trends in domestic and external resources:

Macro developments

The report includes a thumbnail sketch of macroeconomic developments and policy initiatives or responses over the past two decades. This is organized around summary macro statistics that where possible are disaggregated by economic sector and region. In addition it describes episodes of instability, crisis and stabilization along with long-term trends in income, exports, employment and other key economic factors.

Poverty and inequality

The report summarizes levels and trends in inequality, income poverty and human poverty. Because it focuses on economic policies it measures poverty in the first instance, in income terms, but it also compares and contrasts these with estimates of human poverty. The report covers the following areas:

- *Poverty* – Changes in the incidence and depth of income poverty based on fixed poverty lines – both extreme and overall poverty – including the basis for setting the poverty line. Especially important are changes in income poverty by economic sector, employment category, region, rural/urban and gender.

• *Inequality* – Levels and changes in inequality with a focus on the lower end of the distribution and magnitude of resources required to achieve poverty reduction.

• *Other key economic characteristics* – Such as whether people are in the agricultural sub-sector or informal or formal sector, tradable or non-tradable sectors, as well as food security and access to infrastructure, such as roads, transportation, irrigation and electricity.

Markets and other institutions

The report also describes key markets and other institutional arrangements in production and distribution:

• *Land* – In agriculture and related activities, arrangements for access to land and commons, and the terms of this access.

• *Credit* – Modes of access to credit and the nature of credit market institutions.

• *Employment* – The nature of labour market institutions and the extent of unemployment and underemployment – along with income sharing and other informal non-governmental forms of income security. Also wage differentials and discrimination; job tenure and insecurity.

The mobilization and allocation of resources

How can domestic and foreign resources be mobilized and effectively allocated? The focus is on finding ways to loosen the tight fiscal constraints under which many countries like Yemen are forced to operate. We call this expanding 'fiscal space'. Thus, the analysis focuses on both the level and growth of national resources, especially through the mobilization of national savings. The study also makes an effort to go beyond the standard kind of poverty analysis, which focuses on spending for the social sectors (or basic social services), and seeks to identify the allocation of resources for economic services, such as for agriculture, industry or services. It also describes the incidence of major forms of taxation and the general prospects for mobilizing additional domestic resources for development. This involves determining whether levels of national savings and tax revenue, in conjunction with the supply of external resources, are adequate for stimulating investment-led growth.

The study is structured as follows:

Chapter Two – This reviews the poverty situation based on two sources; the Household Budget Survey (1998) and the National Poverty Survey (1999). It also appraises two decades of programmes for economic growth and poverty reduction.

Chapter Three – The Government of Yemen aims to reduce the proportion of the population with incomes below the national poverty line from the 43% level at the time of the 1998 Household Budget Survey to 21% in 2015. This chapter estimates the economic growth and investment needed to achieve this and the shortfall that would need to be filled by overseas development assistance.

Chapter Four – This reviews Yemen's macro-fiscal record, presenting the challenge arising from the anticipated future decline in oil revenues.

Chapter Five – This discusses the limited contribution of financial sector to growth and poverty reduction.

Chapter Six – This reviews the reforms in the monetary and exchange rate regulations and highlights the decline in private-sector savings and investment – along with employment and productivity issues.

Chapter Seven – In order to provide widespread remunerative employment, Yemen needs to increase both public and private investment. This chapter concludes that financing for such investment will have to come from various current sources: oil revenue, increased tax revenue on non-oil incomes, reduced international reserves, debt relief and from substantially increased ODA.

Chapter Eight – Yemen is a predominantly rural society. This chapter addresses agriculture and rural livelihoods and provides a set of policy proposals for improving food security and reducing poverty. The chapter also analyses demand and supply side constraints to increasing agricultural production and agrarian transformation.

Chapter Nine – Despite liberalization, Yemen's integration in the world economy has been relatively modest. This chapter presents the main features of Yemen's trade and industry sectors and gives policy recommendations for a more diversified export structure and production base.

Chapter Ten – This summarizes the report's main policy recommendations.

Chapter Two
Generalized poverty in Yemen and its macroeconomic implications

2.1 The nature of poverty in Yemen

Yemen suffers from generalized or mass poverty. According to the 1998 Household Budget Survey (HBS 98), 41.8% of the population in that year lived under conditions of extreme poverty, i.e., below the World Bank's 'lower' poverty line.[6] At the official exchange rate in 1998 this line is equivalent to 78 cents a day and at the 1985 PPP rate it is just over 1 dollar a day (Table 2.1).

Table 2.1 – Headcount poverty, 1998

	Lower poverty line	Upper poverty line
Poverty Line:		
Rials a day	105.53	155.18
$ a day, PPP 1985*	1.03	1.51
$ a day, official exchange rate 1998	0.78	1.14
Head Count Poverty:		
National	41.8	66.9
Rural	45.0	69.6
Urban	30.8	57.8

Notes: The 1998 poverty lines are rebased to 1993 using the consumer price index. The ppp rate is calculated at 1993 GDP ppp rates and normalized by the 1.08 factor to be comparable to the World Bank's definition of $1 a day poverty line at 1985 ppp rates.
Sources: World Bank 2002 for poverty lines, and WDI 2004, World Bank for ppp rates.

A more normal 'upper' poverty line is defined as the value of the basket of goods and services that is actually consumed by the households whose food and energy intake is equal to the minimum requirement of 2,200 calories per person per day.[7] At the official exchange rate this poverty line translates into about $1.1 per day, and at the 1985 PPP rate it is about $1.5 a day (Table 2.1).[8] On this basis the headcount poverty rate is 66.9% – the majority of the population – 69.6% in rural areas, and 57.8% in urban areas. In addition, many other people live marginally above the poverty line and are

[6] The lower poverty line is defined as the value of the basket of goods and services which is equal to the cost of the food bundle that can afford the minimum energy intake of 2,200 calories per person per day, plus a minimum allowance for non-food expenditure which is equal to the average spending on such items by households whose total expenditure is no more than the value of the minimum food requirements.
[7] We have referred to this as the 'normal' definition of poverty line, because in countries such as India this forms the basis of defining absolute poverty lines. In the case of India though, the minimum calorie intake in the rural areas is taken as 2,400 calories and in the urban areas as 2,100 calories per person per day. Given that the majority of the population in Yemen lives in the rural areas, the application of Indian norms will lead to even higher headcount poverty measures than reported.
[8] It should be noted that the PPP exchange rates in Table 2.1 are based on GDP PPP exchange rates and not the consumption exchange rates. This may lead to an under-estimate of poverty as reported in Table 2.1. This is because a relatively large proportion of essential consumer goods in Yemen, particularly the basic necessities such as food and medicine are traded goods, while the domestic component of other GDP expenditure

vulnerable to minor economic fluctuations. Clearly in Yemen the vast majority of the population are poor.[9]

Figure 2.1 – Child malnutrition

Figure 2.1(a), Malnutrition prevalence, weight for age (% of children under 5)

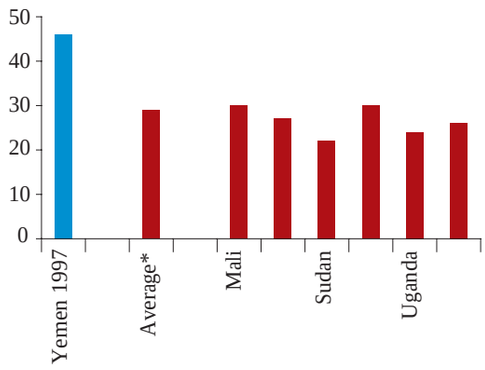
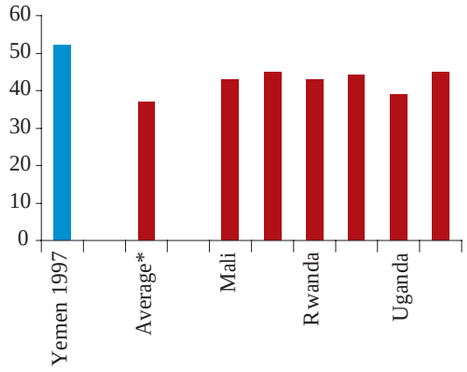


Figure 2.1(b), Malnutrition prevalence, height for age (% of children under 5)



Notes: Average refers to a simple average for 64 low-income countries as defined by the World Bank. For countries other than Yemen, values refer to the average for 1995-2000.
Source: World Bank WDI 2004.

Income poverty is, however, a one-dimensional measure, so it could be argued that generalized poverty in Yemen is just a statistical artefact susceptible to the choice of the poverty line. This picture of generalized poverty is, however, confirmed by other direct and indirect measures. According to the National Poverty Survey 1999 (NPS 99), for example, more than 58% of the population belonged to households who considered themselves as either poor or extremely poor. Health and education indicators support this: for example, over 80% of the adult population in 1998 were either illiterate or did not complete primary schooling.

Poverty can be considered as generalized poverty given that the difference between the poorest fraction and the rest of the population is relatively small. Other indicators of poverty such as those on nutrition and health also point to mass poverty. As can be seen from Figure 2.1, for example, child malnutrition is more extensive in Yemen than some of the poorest countries in sub-Saharan Africa.

Where the poor constitute a relatively small section of the population the main instruments of anti-poverty policy are social safety nets and redistributive social welfare schemes. But in circumstances of mass poverty these are inadequate. Furthermore, generalized poverty poses serious new challenges to policy makers as it can affect the behaviour of economic agents and the way in which institutions respond to policy stimuli at the micro level, as well as severely limiting the range and effectiveness of policies available to the government at the macroeconomic level.

[9] According to the World Bank (2002) simulations, for example, an additional 7 to 24 per cent of the population in 1998 were in the vicinity of the lower poverty line – the vulnerability depending on the size of the economic shock varying respectively between 10 to 30 per cent of per capita consumption. This becomes particularly significant when one considers the high volatility of per capita private consumption in Yemen (see, e.g., Figure 2.3 below). s such as investment (mainly construction work) and government consumption is likely to be relatively high.

Generalized poverty is also usually associated with other broader economic conditions For example, the majority of the population live in rural areas – 74% in Yemen – surviving on low-productivity, subsistence agriculture and related activities. Levels of human capital are very low and population growth is rapid, 3% in Yemen, which multiplies the number of unskilled workers. Meanwhile the accumulation strategies for the rich are based on eating into the natural capital stock.

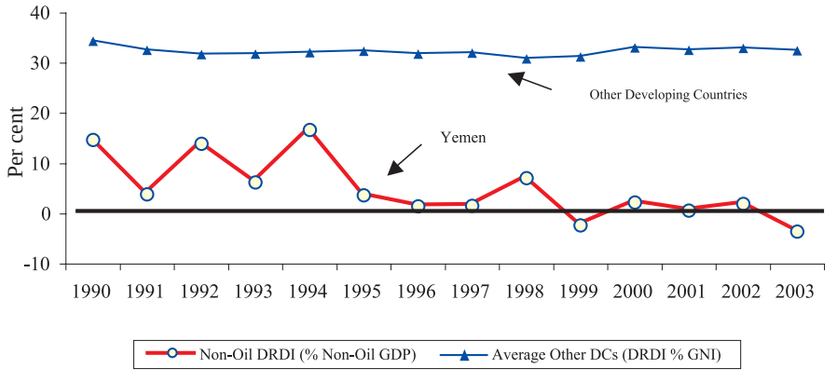
Such economies are often caught in a vicious circle of population growth, environmental degradation and natural resource depletion that ultimately can destabilize the social and political order (UNCTAD 2002). In Yemen, however, the discovery and production of oil in the 1980s, and the considerable increase in oil revenues in the 1990s, provided a short window of opportunity to break out of this vicious circle.

2.2 Domestic resources for development and investment under generalized poverty

A good starting point for the discussion of the potential contribution of the oil sector is to examine the magnitude and trends in 'domestic resources for development and investment' (DRDI). This is defined as gross national income minus private consumption expenditure – which is equal to resources available for domestic investment, provision of public services, or investment abroad. In very low-income countries DRDI is a useful indicator of the possibilities for resource mobilization consistent with poverty reduction, and the nature of resource constraints over time. It also serves as an indicator of the magnitude and locus of the fiscal base and as a basis for calculating the available 'fiscal space'.

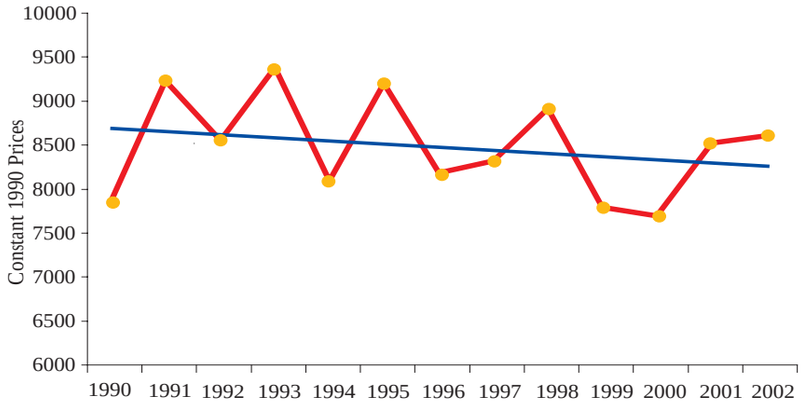
Figure 2.2 shows the trends in non-oil DRDI for Yemen as a share of non-oil GDP, comparing this with the average value of DRDI for other (non-LDC) developing countries.

Figure 2.2 – Domestic resources available for development and investment (DRDI), 1990-2003



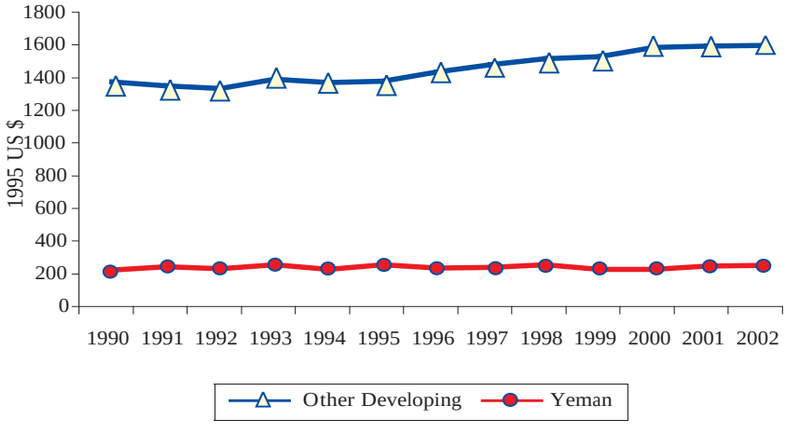
Given the quality of the national accounts data, some care is needed in interpreting Figure 2.2. Nevertheless, the orders of magnitude are large enough for a clear picture to emerge: in much of the period since the early1990s non-oil GDP has barely been sufficient to cater for private consumption expenditure. And since the latter half of the 1990s, the gap between the non-oil DRDI in Yemen and the average DRDI for other developing countries has been large and widening – currently equivalent to over 35% of non-oil GDP[10].

Figure 2.3: Per capita household consumption expenditure, 1990-2002



Source: WDI 2003, the World Bank.

Figure 2.4: Per capita household consumption expenditure in Yemen and other developing countries, 1990-2002



Notes: Other developing countries chart is the simple average for 108 non-LDC developing countries.
Source: WDI 2003, the World Bank.

This may suggest that Yemen's rising oil income has been fuelling private consumption and hence squeezing non-oil DRDI rates. This view however is not entirely correct. As can be seen in Figure 2.3, real per capita private consumption in Yemen since the

[10] The higher DRDI rate in the first half of the 1990s is likely to be due to large government implicit subsidies which led to an undervaluation of private consumption in national accounts.

early 1990s, if anything, appears to have been declining. In fact, it the peak year for per capita private consumption in the post-economic-reform period was 1998 – the year for which the conditions of generalized poverty were discussed in the previous section.

Figure 2.4 compares Yemen with other developing countries. This shows that Yemen's per capita private consumption levels of $200 at 1995 prices is only around 10% of the developing country average. With per capita consumption at this low level, attempts to raise the domestic non-oil DRDI rate by eating into it by an appreciable amount is likely to worsen poverty. This is not of course to deny the possibility of taxing the richer groups: in 1999, according to the National Poverty Survey, the top 20% of households accounted for more than 51% of expenditure.[11] However, given the sized of the DRDI gap it is clear that without substantial improvements in labour productivity the domestic non-oil economy will be unable to furnish the required resources without pushing wages and consumption well below minimum subsistence levels.

Essentially what is happening is that while private consumption has been growing in total this has been offset by the population growth. At present, even to maintain per capita consumption levels, total private consumption has had to grow by the relatively high rate of 3.5% a year. Population growth also puts an increasing burden on public services such as health and education – again at the expense of investment in economically productive activities.

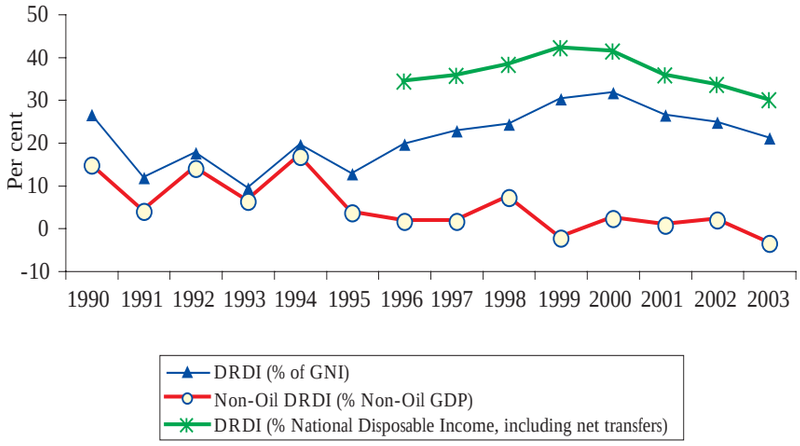
In these circumstances it is unlikely that per capita private consumption levels could have been maintained without the contribution of the oil sector and other external sources of finance. If oil revenues are included in the definition of DRDI, this indicator is now measured as gross national income minus private consumption expenditure. Figure 2.5 plots this as share of GNI along with non-oil DRDI, showing that oil income has made a considerable contribution to the DRDI. This has been partly due to the large increases in the dollar value of oil exports. But economic reforms have also enhanced the contribution of the oil sector to DRDI. During the pre-reform period when oil income was by and large valued at the overvalued official exchange rate, and partly used for subsidizing the prices of basic consumer goods, the overall DRDI was not substantially above the non-oil DRDI (Figure 2.5). In this way, a large part of the government's oil revenue was transferred to the private sector. Economic reforms, however, then ended consumer price subsidies and unified the exchange rate. This led to a substantial increase in the domestic currency value of government oil revenues and entailed a large shift of resources from the private sector to the government – partly from the household sector and partly from the private businesses that had benefited from rents generated by quantitative restrictions. So unlike the first half of the 1990s the government was able to mobilize substantially more resources.

After oil the other major contribution has been migrant remittances. Taking these into account the DRDI rate, as a share of national disposable income, in the post- economic-reform period rises to, or even surpasses, the average levels in other non-LDC developing countries (Figure 2.5). This is a considerable achievement – though built

[11] Household Budget Survey of 1998 (HBS98) though shows more equal distribution of expenditure with the top 30 per cent consuming over 54 per cent of total (see, World Bank 2002).

on two sources of income that are not derived from the reproducible wealth of the domestic economy. Oil is a depletable resource and exports are projected to tail off within the next ten years and remittances from Yemeni workers abroad are not a reliable source of revenue and are unlikely to grow in the future.[12]

Figure 2.5: Domestic resources available for development and investment, 1990-2003



Sources: IFS, IMF March 2005, World Bank WDI 2005, and CSO Statistical Yearbook, various issues.

It is therefore important to see how the resources made available for financing investment and public services were used in this period and how effective they have been in raising the productive capacities in the economy and in creating productive employment for the poor. A general answer to this question is already implicit in Figure 2.5, in the shape of the non-oil DRDI which meandered close to zero and moved into negative territory in 2003. Subsequent chapters of this report consider this issue in greater detail.

2.3 Initial conditions and economic reform

After almost a decade since the inception of the economic reform programme, it should now be possible to assess its impact. In the immediate aftermath of unification in 1990, the country faced the formidable task of unifying two countries with different economic systems, two separate, bloated and inefficient administrative systems, and two different legal systems. Moreover, both countries had unsustainable debt burdens. Even under normal circumstances or in more developed economies, these problems would have been sufficient to knock any government off-balance. But the task was made even more difficult by another series of setbacks: the return of tens of thousands of Yemeni migrant workers following the first Gulf war, two years of severe drought; the cessation of foreign aid, and constant political strife culminating in the civil war of 1994. All these events contributed to a backlog of vital investments.

[12] Yemen has always had a substantial number of migrant workers which in the 1980s were estimated at over one-third of the labour force, working mainly in the Gulf countries. Following the Gulf crisis of 1990-91 a large number of Yemeni workers returned. It is not clear, however, how much of the net current transfers in the balance of payments – which fluctuate between 11 to 18 per cent of national disposable income – consist of regular remittance income by Yemeni workers abroad and how much is 'hot money' flowing in to take advantage of high interest rates and relatively stable dollar exchange rate in the country.

Since Yemen did not have access to international capital markets it had to rely substantially on oil incomes. However, this can be extremely volatile and led to fluctuations in government expenditure increasing economic instability. One solution is to establish oil stabilization fund to smooth out the effect of these fluctuations. But this is difficult in such a poor country which needs urgently needs investment. A more appropriate solution is for the country to have access to a special category of stabilization aid and grants. In years when revenues are greater than planned expenditures, they can be used to reduce foreign debt or increase investment abroad. This avoids the cost of holding large stocks of stabilization funds and transmits oil revenue fluctuations to aid flows rather than to the domestic economy.

It is also important to consider this from a long-term perspective. One view is that the path of government expenditure should be determined by 'permanent income' from oil revenues (see, e.g., Enders et al, 2002, Barnett and Ossowski, 2002, and Fisher and Easterly, 1990). Permanent income in this context is defined as that part of oil revenues that can be spent without reducing the net wealth of the country – which could be considered to be the income from investing the oil revenues in domestic and foreign financial assets.

However, there are a number of problems with this proposal. First, the domestic financial markets are incapable of absorbing the funds. Since 2000, Yemen has built up surplus oil funds of over 200 billion YRs and mainly kept these as government deposits at the central bank. These sums, together with other foreign exchange reserves that have accumulated in the central bank, currently standing at well over 1000 billion YRs, and at present earn a rate of return of well below 2% a year.

Furthermore, the permanent income will itself depend on how oil revenues are deployed in the domestic economy and the type of externalities that such deployment can give rise to. It may, for example, be essential to use current oil income for essential public investments that can create positive externalities and make such investments sustainable in the long run. Investing in reforming the administrative structures and building up the infrastructure can facilitate considerable private investment, both domestic and foreign.

What matters for future budget solvency in this case is not only, or even primarily, the rate of return on these new investments, but rather the total amount of investment and the resulting taxable income that they generate in future periods. These are important considerations when examining the post-reform fiscal policy.

Chapter Three
Growth, investment and ODA requirements for halving income poverty by 2015

3.1 Growth and investment requirements

The Government of Yemen aims to reduce the proportion of the population with incomes below the national poverty line from 43% at the time of the first household budget survey undertaken in 1998 to 21% in 2015.

How much economic growth will be needed to achieve this? If the distribution of income remains unchanged, we estimate that the elasticity of the headcount poverty rate with respect to per capita income, although likely to vary from year to year, will average 1.7. Given an average rate of population growth over the period 1999-2015, which is projected at 2.9% per annum, the per capita income would need to rise by 1.68% per annum, which implies that over this period national income must increase by an average of 4.58% per annum. If, however, income distribution improves and growth is pro-poor the required growth rate falls to 4.15% per annum On the other hand, if it is anti-poor, the growth requirement rises to 5.5% per annum.

How much investment would be needed to generate this growth? By analogy with other countries the capital-output ratio over the next decade is likely to hover between 3.0 and 3.5. If growth is distribution-neutral, this implies that investment would need to average 22.6% of GDP. If growth is anti-poor it would need to be higher, 25.6%; if growth is pro-poor it could be lower, 21%.

This investment is unlikely to be financed from domestic savings. Over the 1990-2004 period the average savings rate for Yemen was approximately 12% of GDP – far below what is needed. And the situation is likely to deteriorate. Dwindling oil revenues could cause domestic savings to decline significantly over the coming decade. Financing the MDG poverty-reduction targets will also therefore need greater ODA – around double the current levels. The investment requirements will of course be less if growth is as pro-poor as possible.

3.1.1 Estimating the growth elasticity of poverty reduction

The methodology adopted here to estimate the growth elasticity of poverty reduction is based on that developed by Kakwani and Son (2005). They focused only on the headcount ratio, but their procedure can easily be applied to other measures such as the poverty gap ratio which is the preferred measure of extreme poverty.

We used Yemen's only reliable household expenditure survey, which was conducted in 1998, and adopted the poverty line developed by the World Bank. These elasticities will of course depend on the pattern of income distribution. We chose three alternative growth scenarios: pro-poor, neutral or anti-poor. Table 3.1 summarised the results (see annex 2 for details).

Table 3.1 – Elasticity of poverty reduction with respect to growth of 1% under alternative growth scenarios: headcount and poverty gap ratios

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	Headcount	**Poverty Gap**	**Headcount**	**Poverty Gap**	**Headcount**	**Poverty Gap**
1999	1.18	0.91	1.62	1.94	1.86	2.97
2000	1.44	0.88	1.71	1.95	2.09	3.02
2001	1.34	0.85	1.65	1.96	1.87	3.08
2002	1.17	0.82	1.47	1.97	1.70	3.15
2003	1.25	0.79	1.42	1.99	2.35	3.22
2004	0.86	0.76	2.01	2.00	1.75	3.28
2005	1.48	0.74	1.21	2.01	2.20	3.36
2006	1.30	0.70	1.57	2.02	1.95	3.42
2007	0.88	0.67	1.85	2.03	1.85	3.52
2008	1.35	0.64	1.44	2.04	2.36	3.61
2009	0.94	0.61	1.26	2.07	2.64	3.67
2010	1.33	0.57	1.53	2.09	2.75	3.75
2011	1.05	0.54	2.23	2.10	2.83	3.81
2012	0.64	0.51	1.74	2.10	2.36	3.89
2013	0.94	0.48	1.96	2.11	2.33	3.99
2014	0.97	0.45	2.09	2.11	2.69	4.09
2015	0.91	0.42	1.74	2.11	2.54	4.18
Average	**1.12**	**0.67**	**1.68**	**2.03**	**2.24**	**3.53**

Sources: Estimates based on data from the 1998 HBS.

The headcount ratio gives equal weight to every poor person while the poverty gap ratio assigns a weight to a poor household proportional to its degree of deprivation. This table shows that the elasticities are higher for the poverty gap ratio than for the headcount ratio. This means that pro-poor growth benefits the ultra-poor more than it benefits the poor as a whole. Another important feature of pro-poor or distribution-neutral growth is that the poverty gap elasticity increases in a linear fashion over time – so the investment required to meet MDG target will also decline in the same fashion. In the case of anti-poor growth, however, the poverty elasticities decrease over time. This means the investment required to meet the MDG goal will increase over time.[13]

3.1.2 Estimating the required per capita growth rate

Meeting the first MDG would mean reducing poverty 2.73% annually from the first survey period to 2015. Based on the elasticities above, the growth rates required are presented in Table 3.2. If the growth pattern is anti-poor, the per capita growth required jumps from 0.78% to 2.57%. For the poverty gap ratio, the difference

[13] On the other hand, the elasticity of the headcount measure does not follow a monotonic path. This is because when income increases, people are moving out of poverty. Therefore, the elasticity will depend on where the majority of the poor are located in the distribution (i.e. on the density function at the poverty line), which can fluctuate significantly.

between required rates of growth in the pro-poor and anti-poor scenarios is even more striking – 4.32% versus 0.78%.

Assuming Yemen's population grows by 2.9% annually between 1999 and 2015, then for the anti-, distribution-neutral and pro-poor scenarios, the economy must grow at 5.47%, 4.58% and 4.15% annually over the same period to achieve the required result. For the poverty gap the required average annual growth rates are 7.22%, 4.25% and 3.68% respectively. However, due to the decline in population growth rates the growth rate is not uniform: for the period from 1999 to 2004, the required average rate of economic growth is 5.6, 5.0 and 4.7 for the three scenarios, respectively.

Table 3.2: Per capita growth rates required to achieve MDG1: headcount and poverty gap ratios, under alternative growth scenarios, 1999-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*		
		Headcount	**Poverty Gap**	**Headcount**	**Poverty Gap**	**Headcount**	**Poverty Gap**
1999	3.30%	2.31	3.00	1.68	1.41	1.47	0.92
2000	3.25%	1.90	3.10	1.60	1.40	1.31	0.90
2001	3.20%	2.04	3.22	1.65	1.40	1.46	0.89
2002	3.15%	2.34	3.34	1.86	1.39	1.61	0.87
2003	3.10%	2.19	3.46	1.93	1.38	1.16	0.85
2004	3.05%	3.19	3.58	1.36	1.37	1.56	0.83
2005	3.00%	1.85	3.72	2.25	1.36	1.25	0.81
2006	2.95%	2.11	3.91	1.74	1.35	1.40	0.80
2007	2.90%	3.10	4.10	1.48	1.35	1.48	0.78
2008	2.85%	2.02	4.28	1.90	1.34	1.16	0.76
2009	2.80%	2.92	4.50	2.18	1.32	1.04	0.74
2010	2.75%	2.06	4.77	1.79	1.31	0.99	0.73
2011	2.70%	2.61	5.08	1.23	1.30	0.97	0.72
2012	2.65%	4.27	5.34	1.57	1.30	1.16	0.70
2013	2.60%	2.90	5.65	1.40	1.30	1.17	0.69
2014	2.55%	2.81	6.02	1.31	1.30	1.02	0.67
2015	2.50%	3.01	6.47	1.57	1.30	1.08	0.65
Average	**2.90%**	**2.57**	**4.32**	**1.68**	**1.35**	**1.25**	**0.78**

Source: ibid

Using these elasticities, it is also possible to speculate on the effects of economic growth on poverty since 1999. To achieve the poverty headcount goal, Yemen's GDP would need to have grown annually by 5%. In fact GDP per capita grew only by 1.0% per annum and real GDP grew by only 4.1%. If the poverty-income elasticity is 1.5 then economic growth should have reduced the headcount poverty rate by 3.87 percentage points – i.e. from 43% to 39.13%. This implies that Yemen could be off track to achieve the MDG1 goal. Moreover, if distribution had worsened over that period, then poverty would have dropped by only 3 percentage points. Conversely, if income distribution had improved, poverty decline since 1998 may have reached 5.16%. Even so, this rate of growth is still below what is required to halve poverty by 2015. The

implication is that if it is to achieve the poverty reduction goal Yemen needs to increase its rate of economic growth significantly over the coming decade.

3.1.3 Estimating the required investment

Given the required per capita annual growth rates, we can estimate the required gross investment as a percentage of GDP. In their study on 15 African countries, Kakwani and Son (2005) assumed a capital-output ratio of 3 and an annual rate of depreciation of 3.1%. Our calculations, based on national accounts data supplied by the Statistical Bureau confirm that both assumptions are relevant for Yemen.[14]

The results indicate that the required investment needs differ depending on the pattern of growth. It is evident that, all things being equal, the average required gross investment increases sharply if growth is accompanied by worsening inequality.[15] In the pro-poor growth scenario, the average required investment for the headcount ratio is around 21% of GDP, which is lower than the rates of 25.6% and 22.6% required under the anti-poor and distribution-neutral scenarios, respectively. For the poverty gap ratio, the discrepancy is larger. Thus, the average required investment-to-GDP ratios were 32.2%, 21.5% and 19.7% for the anti-poor, distribution neutral and pro-poor scenarios, respectively. (Table 3.3-3.4)

Table 3.3: Headcount ratio target: average investment requirement and gap between savings and investment, as a percentage of GDP, 2005-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	Investment	**Investment -savings gaps**	**Investment**	**Investment -savings gaps**	**Investment**	**Investment -savings gaps**
2005	23.9	8.9	25.1	10.1	22.0	7.0
2006	24.5	11.5	23.4	9.9	22.4	8.4
2007	27.3	16.3	22.4	10.4	22.4	9.4
2008	23.9	14.9	23.5	13.0	21.3	9.3
2009	26.5	19.5	24.2	15.2	20.8	9.8
2010	23.7	18.7	22.9	15.4	20.5	10.5
2011	25.2	22.2	21.1	15.1	20.3	11.3
2012	30.1	29.1	22.0	17.5	20.7	12.7
2013	25.8	26.8	21.3	18.3	20.6	13.6
2014	25.4	28.4	20.9	19.4	20.0	14.0
2015	25.8	30.8	21.5	21.5	20.0	15.0
Average	**25.6**	**20.6**	**22.6**	**15.1**	**21.0**	**11.0**

Source: ibid

[14] Kakwani and Son (2005) estimated the rate of depreciation for the Middle East and North Africa (MENA) to be around 3.1 using the formula given in Footnote 2.
[15] See Kakwani et. al. (2005).

Table 3.4: Poverty gap ratio target: average investment requirement and gap between savings and investment, as a percentage of GDP, 2005-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	Investment	**Investment -savings gaps**	**Investment**	**Investment -savings gaps**	**Investment**	**Investment -savings gaps**
2005	29.5	14.5	22.4	7.4	20.7	5.7
2006	29.9	16.9	22.2	8.7	20.5	6.5
2007	30.3	19.3	22.0	10.0	20.3	7.3
2008	30.7	21.7	21.9	11.4	20.1	8.1
2009	31.2	24.2	21.7	12.7	19.9	8.9
2010	31.9	26.9	21.5	14.0	19.7	9.7
2011	32.6	29.6	21.3	15.3	19.6	10.6
2012	33.3	32.3	21.2	16.7	19.4	11.4
2013	34.1	35.1	21.0	18.0	19.2	12.2
2014	35.0	38.0	20.8	19.3	19.0	13.0
2015	36.2	41.2	20.7	20.7	18.8	13.8
Average	32.2	27.2	21.5	14.0	19.7	9.7

Source: ibid

Unlike the Kakwani and Son study, however, this report has not used a fixed rate of domestic savings, because oil revenues, which constitute the bulk of the current public revenue-base, are expected to decline significantly. Nor does it make sense to assume that this decline in domestic savings will take place independent of the growth and income distribution scenario. Since the anti-poor scenario will require higher growth, this would put more pressure on the fiscal and external trade gaps. To take this into account, we assumed three different savings-to-GDP scenarios from 2005 to 2015. The assumption instead is that for the anti-poor, distribution-neutral and pro-poor growth scenarios savings would average 5%, 8%, and 10% respectively. Tables 3.3-3.4 indicate the required investments.

For the headcount ratio the average investment-saving gap is 11% when growth is pro-poor, but increases to 20.6% when growth is anti-poor. For the poverty gap ratio, in the pro-poor scenario the resource gap is only 9.7% but rises to 27.2% when growth is anti-poor. (Table 3.4)

3.1.4 Estimating the requirements for per capita foreign aid

The investment-savings gap can be filled by numerous alternative sources: official development assistance (ODA), private capital inflows, and borrowing. If we assume that the gap is to be filled by ODA, then using IMF estimates of per capita GDP and required per capita growth rates obtained in Section 3.2.2, we calculated the average GDP and financing gap per capita, in 2002 US dollars, over the 2005-2015 period. The results are shown below in Tables 3.5 and 3.6.

Table 3.5: Headcount ratio target: per capita GDP in 2002 US$ and ODA required under alternative growth scenarios, 2005-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	GDP pc	**ODA**	**GDP pc**	**ODA**	**GDP pc**	**ODA**
2005	577	51.1	567	57.1	559	39.3
2006	589	67.5	577	57.0	566	47.3
2007	607	98.9	586	61.1	575	54.2
2008	619	92.4	597	77.8	581	54.2
2009	638	124.1	610	92.9	587	57.7
2010	651	121.9	621	95.7	593	62.5
2011	668	148.5	628	94.7	599	67.7
2012	696	202.4	638	111.5	606	77.1
2013	716	192.1	647	118.3	613	83.5
2014	737	209.1	656	127.0	619	86.7
2015	759	233.8	666	143.3	626	94.1
Average	636	140	602	94	583	66

Source: ibid

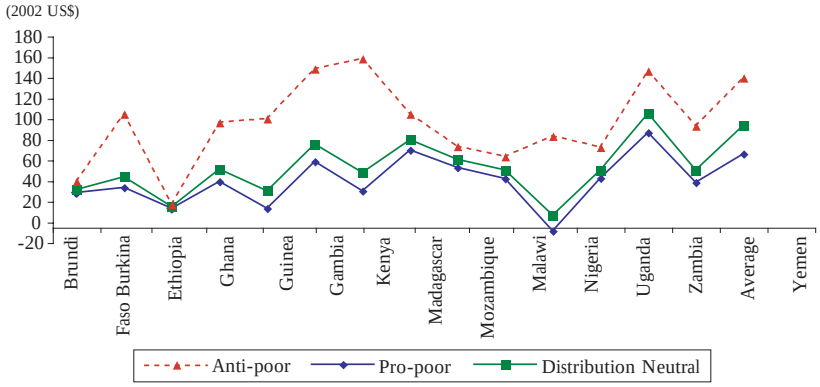
Reaching the MDG headcount target would require annual ODA of $66 per capita under the pro-poor growth scenario, but $140 under the anti-poor growth scenario. For the poverty gap ratio, the figure is $216 under the anti-poor growth scenario but only $56 when growth is pro-poor. Greater GDP per capita will also be required if growth is not pro-poor – an additional $74 and $160 per person to meet the headcount and poverty gap targets respectively. Finally, Figure 3.1 shows that the ODA requirements for the headcount estimated here are significantly higher than those estimated for other LDCs in the study by Kakwani and Son (2005).

Table 3.6: Poverty gap target: per capita GDP in 2002 US$ and ODA required under alternative growth scenarios, 2005-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	GDP pc	**ODA**	**GDP pc**	**ODA**	**GDP pc**	**ODA**
2005	597	86.3	559	41.3	551	31.6
2006	620	104.8	567	49.4	555	36.3
2007	646	124.5	575	57.7	559	41.0
2008	673	146.0	582	66.2	563	45.8
2009	704	170.2	590	74.7	568	50.7
2010	737	197.9	598	83.5	572	55.7
2011	774	229.5	605	92.7	576	60.8
2012	816	263.3	613	102.2	580	65.9
2013	862	302.1	621	111.8	584	71.0
2014	914	347.3	629	121.7	588	76.2
2015	973	400.9	638	131.9	592	81.4
Average	713	216	586	85	565	56

Source: ibid

Figure 3.1: Average Annual ODA required for Yemen and selected African LDCs, 2005-2015



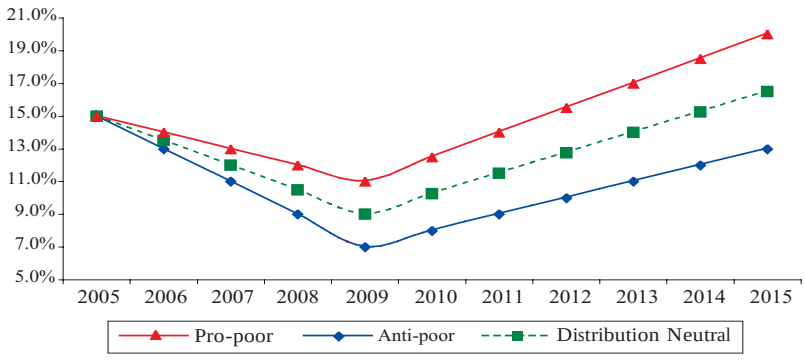
Source: ibid

Notes: Cote d'Ivoire and Cameroon were excluded from this sample as their estimated required rates in the anti-poor scenario were significant outliers.

3.1.5 The effect of a more favourable savings path

A decline in savings can significantly affect the prospects for poverty reduction. But this decline is not inevitable. As argued later in this report, Yemen has the potential to diversify its economic base and hence reduce its dependence on oil revenues and the resulting growth in service and non-oil commodity exports would reduce the balance of payments constraint on growth. Hence, as shown in Figure 3.2, it is envisaged that by 2010 savings could have rebounded from the oil shock and, if growth is distribution-neutral or pro-poor, could by 2015 even exceed the initial savings rate. As revealed in Table 3.7, this would dramatically lower the cost of poverty reduction. And if growth were pro-poor this would reduce the ODA requirement for financing poverty reduction by 100%.

Figure 3.2: Projected rate of domestic savings under different growth scenarios. 2005-15



Source: ibid

Table 3.7: Adjusted ODA required to achieve the MDG1 headcount and poverty gap ratios, 2005-2015

	Anti-poor growth		*Neutral growth*		*Pro-poor growth*	
	HC	**PG**	**HC**	**PG**	**HC**	**PG**
2005	51.1	86.3	57.1	41.3	39.3	31.6
2006	67.5	104.8	57.0	49.4	47.3	36.3
2007	98.9	124.5	61.1	57.7	54.2	41.0
2008	92.4	146.0	77.8	66.2	54.2	45.8
2009	124.1	170.2	92.9	74.7	57.7	50.7
2010	102.3	175.8	78.6	67.1	47.6	41.4
2011	108.5	183.0	60.2	59.4	37.7	32.0
2012	139.7	189.9	58.9	51.6	31.6	22.4
2013	106.1	198.7	47.1	43.4	22.2	12.6
2014	98.6	210.2	36.9	35.2	9.3	2.7
2015	97.2	225.7	33.4	26.7	0.2	-7.3
Average	**99**	**165**	**60**	**52**	**36**	**28**
Effect of Higher Savings	**-41**	**-51**	**-34**	**-33**	**-30**	**-28**

Source: ibid

3.2 Aid efficiency

It is important, however, to note some of the shortcomings of this methodology. The use of poverty elasticities vis-à-vis economic growth and fixed incremental capital-output ratios (ICORs) is a crude approximation because such elasticities and ICORs change across time and space – reflecting differences in country contexts, in endowments, in economic and social histories, and in development trajectories. (Vandemoortele and Roy, 2004). Hence, there is a danger in attaching too much belief to this exercise.

These estimates should not therefore be considered as precise financial requirements but as indications of the order of magnitude of the required resources, given very specific macroeconomic and distributional assumptions. They can also pave the way for the discussion of absorptive capacity in this section and on fiscal space in Chapter 4.

Interestingly, however, the estimates here are in line with those of the GoY. With the cooperation of the UN specialized agencies and the World Bank, the GoY has prepared a Needs Assessment Report to identify a set of 'integrated interventions' that would enable Yemen to meet the MDGs. The report also identifies the necessary infrastructure, and human and financial resources. It suggests that over the next 10 years meeting the MDGs would cost $49 billion**.** Of this, around 35% of the total, amounting to $1.8 billion a year, would need to come from external finance. Given that Yemen gets relatively little aid, $350 million a year, the report identifies a financing gap of almost $1.5 billion per year. This is in line with the estimates presented here for the pro-poor scenario if savings decline, and for the distribution neutral scenario if savings recover.

The MDGs are achievable, but as the 2003 Human Development Report outlined, with entrenched poverty what is urgently, needed is follow-through on international commitments. And Yemen in particular requires consolidated international assistance to help the Government overcome the medium- and long-term problems of falling oil revenues.[16]

At present ODA is provided directly to the Government of Yemen and its agencies and partly in the form of general or sectoral budget support. It can thus help finance the continuance of pro-poor expenditures that are endangered by falling domestic oil revenues. ODA inflows could thus help sustain the momentum of growth in the domestic economy while contributing to the achievement of MDG1.

ODA is provided either as grants or as concessional loans that would not need repaying for some time. Assuming continuous economic growth, higher concessional ODA inflows would therefore be unlikely to aggravate Yemen's debt service burden which in 2003 amounted to 40% of gross national income.

Over the long term however, Yemen would need to finance a significantly higher proportion of its currently aid-financed public expenditures from domestic resources. This would require an increase in gross national savings, which could be mobilized through domestic borrowing. Leaving distributional considerations aside, domestic borrowing adds to gross investment and to growth if it does not substitute for resources available for private investment and if the returns from public investment are high enough to justify the borrowing costs[17].

The problem for Yemen and most other LDCs is that there is no guarantee that donors will increase or honour their pledged ODA. Although in recent years total aid to the Arab region has increased, over half of this in 2003 went to three middle-income countries: Egypt, Jordan, and Iraq, with an increasing proportion going to Iraq to support post-conflict reconstruction. The highest aid per capita in 2003 went to Palestine, Djibouti, Jordan and Iraq (Table 3.7).

On the positive side, as Table 3.7 shows, over the period 1999 to 2003 the average aid per capita for Arab countries rose from $19.4 to $27.8. However, the average aid per capita received by the regions LDCs in 2003 was only $20.8 and with the exception of 2002, LDC countries have consistently received less than the region's average in aid per capita. Yemen, in particular, experienced a sharp decline from $26.9 in 1999 to $12.7in 2003.

And although they constitute 22% of the total Arab population in 2003 the LDCs received only 16% of the total ODA ($8.3 billion). Aid is also allocated unevenly among the LDCs themselves: for example, in 2002, per capita Djibouti received ten times more than Sudan and Mauritania five times more than Somalia (Figure 3.4).

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16 And of falling oil sector Gross National Income, most of which takes the form of royalties and the Government's share of oil output.

17 Note that in poor countries increases in domestic public debt can have negative distributional implications, which have to be set against the benefits of increased domestic resource mobilization. For details see Roy (1994).

Table 3.8: **Aid per capita and total aid, for the Arab Region, 1999-2003, $**

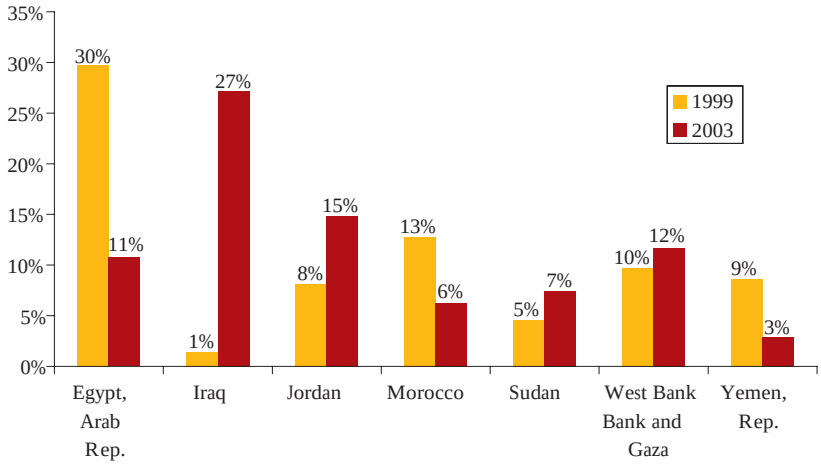
	1999		2000		2001		2002		2003	
	Aid per Capita	Total Aid	Aid per Capita	Total Aid	Aid per Capita	Total Aid	Aid per Capita	Total Aid	Aid per Capita	Total Aid
Algeria	4.6	138.1	6.6	201.1	7.3	223.6	10.5	328.6	7.3	232.4
Bahrain	6.1	4.0	73.3	49.1	26.1	17.9	101.1	70.6	52.7	37.5
Egypt, Arab Rep.	25.2	1,582.4	20.8	1,328.1	19.3	1,256.6	18.7	1,238.5	13.2	893.8
Iraq	3.3	75.9	4.3	100.8	5.2	122.4	4.8	115.8	91.7	2,265.2
Jordan	91.2	432.0	113.1	552.5	86.0	432.5	100.5	519.9	232.5	1,234.3
Kuwait	3.4	7.2	1.3	2.8	1.6	3.6	2.0	4.6	1.8	4.4
Lebanon	45.4	194.0	46.1	199.7	55.4	242.8	101.9	452.7	50.8	228.3
Libya	1.4	7.3	2.9	15.4	1.9	10.0	1.9	10.4	1.8	10.0
Morocco	24.0	678.8	14.6	419.4	17.8	518.6	16.4	487.0	17.4	522.8
Oman	17.0	39.9	18.9	45.6	0.7	1.6	16.1	40.8	17.1	44.5
Qatar	8.7	4.9	0.8	0.5	1.7	1.0	3.6	2.2	3.2	2.0
Saudi Arabia	1.4	28.9	1.5	30.9	1.3	27.0	1.2	26.9	1.0	21.9
Syrian Arab Republic	14.5	228.5	9.8	158.5	9.4	155.3	4.8	81.0	9.2	160.3
Tunisia	26.7	252.7	23.3	222.7	39.0	377.7	27.1	264.9	30.9	305.5
United Arab Emirates	1.4	4.2	1.2	4.0	0.9	3.0	1.1	4.2	1.3	5.3
Palestine	181.6	516.2	214.9	637.3	280.9	869.5	500.3	1,616.5	288.6	971.6
LDCS										
Comoros	39.4	21.4	33.6	18.7	48.1	27.5	55.4	32.5	40.8	24.5
Djibouti	115.4	75.1	107.2	71.4	84.7	57.6	112.2	77.8	110.3	77.8
Mauritania	85.2	218.8	80.1	211.9	98.5	267.6	124.0	345.3	85.2	242.7
Yemen, Rep.	26.9	458.3	15.1	264.9	25.5	460.9	31.4	583.7	12.7	243.1
Somalia	13.6	114.6	11.9	103.9	16.6	149.7	20.8	193.7	18.2	175.1
Sudan	7.9	243.0	7.2	225.4	5.8	185.5	10.7	350.9	18.5	621.3
Total LDCs	18.8	1,131	14.5	896	18.2	1148	24.4	1,583	20.8	1,384
Total	19.4	5,326	17.3	4864	18.9	5411	23.4	6,848	27.8	8,324

Source World Bank Development Indicators (Development Assistance Committee of the Organisation for Economic Co-operation and Development, and World Bank population estimates)

Another problem facing LDCs is the volatility of aid flows. This is particularly difficult for in low-income countries where aid flows are large relative to government revenues and budgets. Aid flows were supposed to become more stable and predictable following the introduction in 1999 of the Poverty Reduction Strategy Papers which were intended to provide a framework for support based on national plans. As figure 3.5 shows, those hopes have not been realized – and here too Yemen seems to have suffered most.

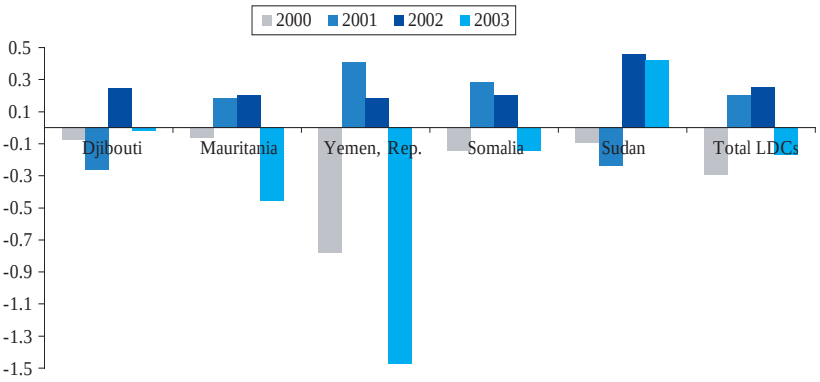
In addition, as UNDP's Human Development Report (2005) notes, aid still comes with a bewildering array of strings attached. Donors see country ownership as a requirement for efficient use of aid, but also use conditionality for leveraging policy change. In many cases these objectives pull in opposite directions: with conditionality undermining country ownership making flows even more unpredictable. This is the certainly the case for Yemen.

Figure 3.3: Major recipients of aid in the Arab Region (% of total aid to the region), 1999 and 2003



Source World Bank Development Indicators, online database

Figure 3.4: Volatility of aid flows to LDCs (percentage change from previous year)



Source World Bank Development Indicators, online database

Unfortunately, there seems no likelihood that these trends will be reversed. The rich countries may have adopted noble goals for human development at world summits and international conferences, but in fact in the 1990s their aid declined by one third. It remains to be seen whether the adoption of the MDGs and the Monterrey Consensus will make any difference. Early indications are not encouraging, as several donor countries have seen their fiscal positions worsened since they made these promises. Also, as we move closer to 2015, foreign aid will increasingly compete with the rising costs of public health care and state pensions for the ageing populations in Europe, Japan and North America. Hence, the sooner we see a major increase in aid, the better it will be for both rich and poor countries – for keeping the promises in the former and for reaching the MDGs in the latter.

As ODA has fallen, made more people are expressing concerns about its effectiveness. Greater scrutiny regarding aid's effectiveness is a welcome development and there have been some improvements, include the untying of aid, directing it more to activities that are likely to benefit the poor, and pooling donor resources. And donors are now more willing to simplify and harmonize their rules, procedures and policies so as to lower the transaction cost for the recipient country. Nonetheless, improvements in the area of 'money changing hands' is no substitute for 'ideas changing minds'. (Vandemoortele, 2003)

Many studies claim that aid is most effective when allocated to countries with 'good policies'. Collier & Dollar (1999), for instance, argue that a diversion of aid to countries where the poverty problem is soluble, due to 'good policies', could lift 82 million people out of poverty each year – as against 30 million with the present pattern of aid allocation. A document to the Development Committee of the World Bank and IMF (2003a) uses the concept of 'good policies' to identify 18 priority countries for additional aid allocations. (Vandemoortele, 2003).

These conclusions are open to considerable question. Not only do they stretch the reliability of the data and are often based on faulty estimates, they also tend to mask the extent of judgment and subjectivity. The definition of 'good policies' is frequently based on the so-called CPIA index (Country Policy & Institutional Assessment), for which the study team assigns a value of, between 1 and 6, for 20 different aspects of the economy. A country that wants to be considered to have 'good policies' needs an average score of at least 3 (Vandemoortele, 2003).

But several of these dimensions cannot be quantified or assessed objectively. For example, values are given as to whether the country has a distortionary minimum wage, excessive labour market regulations or too many public sector workers. It also asks whether the state is able to protect 'most of the citizens most of the time'. Calculating the CPIA index is, unsurprisingly, more an art than a science; the results of which are likely to be influenced as much by beliefs and dogmas as by facts and figures. Using different methods, different indicators or different levels of aggregation, several other studies have concluded that aid is effective irrespective of whether the policies are 'good' or not. A UNDP report on development effectiveness (2003) points out that while a good policy environment is important for development results, no single policy set can guarantee desired development outcomes and concludes: "aid seems to improve social indicators regardless of the type of policy environment".

The truth is that 'good policies' cannot readily be measured, and certainly not objectively and scientifically. As with beauty, they are in the eye of the beholder. On what basis would one argue, for instance, that Canada has better policies than Germany? Even if it were possible to rank countries objectively according to one policy, how could one pretend to be able to do so at the aggregate level, stating that a country's policies are generally 'better' than those of another country? This daring endeavour is meeting surprisingly little objection or raising any alarm. (Vandemoortele, 2003).

The concern about aid effectiveness – though welcome – has also in the 1990s led several donor countries to become less generous. Indeed, foreign-aid sceptics have eager-

ly used the research findings on 'good policies' as a justification for cutting ODA. This is unlikely to have helped any poor person, anywhere.

Many people have also expressed concern about 'absorptive capacity'. This too is difficult to pin down and can vary considerably according to circumstances. The campaigns against hunger in Brazil, for example, and in favour of universal primary education in Kenya clearly exemplify that even in the short-term capacities are not fixed. Inefficiencies and insufficiencies in public spending are interdependent – and absorptive capacity can be increased by increased investment. For example, when 98% of the budget for primary education is needed to pay teacher salaries – a basic expense – there is little scope for improving the quality without spending more. In such cases, extra resources will be a prerequisite for enhancing the efficiency of public spending, not the other way round. (Vandemoortele, 2003).

In short, scepticism is needed when assessing arguments about aid efficiency and absorptive capacity, or the merits of liberalization, privatization or any pro-poor policy reforms. They must always be interpreted with caution or may end up hurting the poor rather than helping them.

In this regard, it is also important to consider the role of the richer Arab countries of the Gulf Cooperation Council (GCC) in offering aid to Yemen. For example, from 2000 to 2003, GCC countries provided a total of $13.7 billion in development aid. Saudi Arabia, the largest donor, contributed 58% of the total. In 2003, Saudi Arabia alone donated $2.8 billion (1.3% of GDP) of the total $3.1 billion contributed in that year. Kuwait and the UAE contributed $82 million and $130 million respectively. Hence, this report makes a plea to the GCC for doubling the ODA to Yemen over the next decade. This pledge can be covered easily from the recent increase in oil prices. (AMDGR, 2006)

Chapter Four
Expanding fiscal space

4.1 Macro-fiscal trends

This chapter is divided into three sections. The first reviews Yemen's macro-fiscal record and major institutional and strategic initiatives. The second reviews the fiscal challenges, using the IMF's scenarios as an initial basis for discussion. The final section undertakes a deeper analysis of the key fiscal challenges to Yemen's development and offers policy recommendations that will improve its long-term MDG-based investment planning.

4.1.1 Overview

Yemen's macro-fiscal development during the 1990s can be divided into three phases: (a) 1990-93 (b) the 1994 civil war and (c) 1995-2003 (with the exception of 1998, when a drop in oil production had an adverse impact on Yemen's public finances). Table 4.1 presents data spanning the period from 1990 onwards.

The first phase of Yemen's development was marked by a new administration's efforts to take control of fiscal operations following the unification of the Yemen Arab Republic and the People's Democratic Republic of Yemen into the Republic of Yemen in May 1990[18]. A combination of three factors plunged Yemen into a severe public finance crisis:

- During 1990-1991 a massive drought, the return of Yemeni workers to their country, and the drop in international aid as a result of Yemen's support to Iraq;
- The high cost of meeting unification commitments.
- Structural weaknesses in the Yemeni economy – e.g., its low level of productivity, its high population growth rate (averaging over 3%) and low level of domestic investment – which further undermined the country's fiscal base.

Between 1990 and 1993, the total revenue-GDP ratio (including grants) fell from 19.8% to 14.9% (Table 4.1). This decline concealed significant trends within the overall revenue structure: while oil revenues decreased from 7.5% to 4.2% of GDP, tax revenues increased slightly, from 8.2% to 8.5%. Another contributing factor was the drop in grants, from 1.1% to 0.1% of GDP.

Despite these revenue losses, the GoY maintained its level of public expenditures, which, between 1990 and 1993, only declined slightly, from 32.3% to 29.5% of GDP. In fact, current expenditures rose: from 73% to 88% of the total. Although current expenditures and interest obligations remained stable at an average of 25.3% and 2.5% of GDP respectively, development expenditures plummeted from 8.7% to 3.5%.

[18] IMF (2001) Page 8

Following the unification of the country, the share of wages in total expenditures increased from 28.5% in 1990 to 36.3% in 1993. Also, defence spending, which was 26% of total expenditure in 1990, rose to 28.1% in 1993.

As a result of these trends, Yemen's fiscal deficit over this period increased from 12.5% to 14.6% of GDP. These statistics emphasize the government's attempt to ease the effects of shocks and structural weaknesses through preserving current expenditure levels despite declines in total revenues.

The outbreak of a civil war in 1994, however, represented a structural break for Yemen's fiscal stance. Between 1993 and 1994, total revenues decreased from 14.9% to 12.8% of GDP. This reflected a fall both in oil proceeds, which decreased from 4.2% to 3.7% of GDP, and tax revenues, which declined from 8.5% to 6.9%.

As a result, between 1993 and 1994 total expenditure decreased slightly from 29.5% to 29% of GDP. Moreover, a higher proportion of this was current expenditure which increased from 88% to 91% of the total, while development expenditure correspondingly fell from 12% to 9%. The combination of reduced revenues and a constant level of spending resulted in an increase in the budget deficit, which in 1994 reached 16.2% of GDP.

A new phase started in early 1995 when the GoY adopted a macroeconomic and structural adjustment programme based on agreements with the World Bank and the IMF. This was called the Economic, Financial and Administrative Reform Programme (EFARP). In order to reduce aggregate demand and curb inflation the programme recommended tight monetary and contractionary fiscal policies which were buttressed by the liberalization of most interest rates and the adoption of a floating exchange rate regime.[19]

Total revenues depended significantly on oil revenues. Thus between 1995 and 2003 they increased dramatically from 19.5% to 33.1% of GDP, as oil revenues increased from 9.3% to 23.6% of GDP[20] (Table 4.1). However, the collapse of oil prices in 1998 led to a sizeable decline in oil revenues (from 21.4% to 14.8% of GDP) and total revenues (from 31.3% to 28.1% of GDP). This shock illustrates Yemen's fiscal vulnerability to oil price volatility. Indeed, the correlation coefficient between oil revenues and total revenues has been 0.99. The low level of non-oil revenues represents a major problem for Yemen's public finances.

There is also limited tax income. Although the end of the civil war had led to a recovery in tax collection which between 1994 and 1995 increased from 6.9% to 8.0% of GDP, the average tax revenue remained low – between 1995 and 2003 reaching only 7.8%, which was lower than the 8.7% average over the period 1990-93. Thus tax reforms of 1995 and 1996 clearly had a limited impact.

[19] IMF (2001). Page 52-55

[20] The reason for the decline in the oil revenue/GDP ratio from 25.3 percent to 23.6 percent between 2001 and 2003 – which appears counter-intuitive in the context of higher oil prices – was not due to a decline in production (which remained stable) but to a faster increase in GDP than oil proceeds.

Table 4.1: Macro-fiscal statistics 1990-2003 (as a percentage of GDP, unless otherwise stated)

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Total revenues and grants	19.8	23.1	16.1	14.9	12.8	19.5	35.9	31.8	28.5	30.7	39.2	35.3	33.6	33.1
1.1. Total revenue	18.7	22.0	15.8	14.7	12.6	19.2	35.6	31.3	28.1	29.8	37.9	35.0	32.0	32.6
1.1.1. Oil and gas revenue	7.5	9.4	4.7	4.2	3.7	9.3	25.1	21.4	14.8	19.1	24.4	25.3	22.3	23.6
1.1.1.1. Crude oil exports	4.9	3.7	1.6	1.5	3.1	6.5	14.1	14.7	9.2	12.2	15.7	17.2	15.2	15.5
1.1.1.2. Domestic oil and gas revenues	2.6	5.7	3.1	2.7	0.5	2.9	11.0	6.6	5.6	6.9	8.8	8.1	7.1	8.0
1.1.2. Non oil revenue	11.2	12.6	11.1	10.5	8.9	9.8	10.5	9.8	13.2	10.7	13.5	9.8	9.7	9.1
1.1.2.1 Tax revenue	8.2	9.2	8.8	8.5	6.9	8.0	8.4	7.9	9.9	7.7	7.2	7.1	7.5	7.1
1.1.2.2. Non tax revenue	3.0	3.5	2.3	2.0	1.9	1.9	2.1	1.9	3.3	2.9	6.3	2.7	2.2	1.9
1.1.3. Grants	1.1	1.0	0.3	0.1	0.3	0.3	0.3	0.5	0.4	0.9	1.3	0.3	1.6	0.4
2. Total expenditure	32.3	30.1	28.9	29.5	29.0	25.6	39.8	33.7	35.3	30.9	31.2	32.8	34.8	38.2
2.1 Current expenditure	23.6	26.1	25.5	26.0	26.4	22.5	33.2	27.1	28.7	25.5	25.8	25.2	27.7	28.6
2.1.1. Civil administration wages	9.2	10.2	10	10.7	9.7	7.3	6.8	6.0	8.1	7.1	6.4	6.9	7.7	7.0
2.1.2. Defence	8.4	8.9	8.9	8.3	9.7	6.7	5.6	5.8	6.6	5.6	5.0	5.7	7.4	7.3
2.1.3. Materials and services	1.9	2.0	2.4	1.7	1.8	1.5	2.3	2.8	3.2	3.0	2.2	2.5	2.6	2.5
2.2. Interest obligations	2.4	2.9	1.9	2.6	2.9	1.5	3.3	2.3	4.0	4.0	2.3	2.1	2.0	1.9
2.3. Explicit subsidies	0	0	0	0	0	3.4	13.0	7.5	3.2	2.4	5.7	3.8	3.2	5.2
2.3.1. Petroleum subsidies	0	0	0	0	0	1.0	5.3	2.8	0.0	2.0	5.7	3.8	3.0	5.0
2.4. Current transfers	1.7	2.2	2.4	2.7	2.3	1.5	1.6	1.5	2.4	2.6	3.0	3.4	4.0	3.5
2.5. Development expenditure	8.7	4.0	3.4	3.5	2.6	3.1	6.6	6.6	6.6	5.4	5.4	7.5	7.1	9.7
3. Overall fiscal balance	-12.5	-7.0	-12.8	-14.6	-16.2	-6.1	-3.9	-1.9	-6.8	-0.2	8.0	2.6	-1.2	-5.2

Source: IMF Statistics

The evolution of the tax structure led to a decline in customs revenues, which between 1996 and 2003 decreased from 3.7% to 2.1% of GDP (Table 4.2). Non-tax revenues increased from 1.9% to a peak of 6.3 of GDP between 1994 and 2000, but subsequently declined to 1.9% of GDP in 2003.

Table 4.2: Evolution of Yemen's Revenue Composition 1994-2003 (% of GDP)

Item	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
1. Total Revenue*	12.5	19.2	35.6	31.3	28.1	29.8	37.9	35.0	32.0	32.6
2. Oil Revenue	3.7	9.3	25.1	21.4	14.8	19.1	24.4	25.3	22.3	23.6
3. Non oil revenue	8.9	9.8	10.5	9.8	13.2	10.7	13.5	9.8	9.7	9.1
3.1. Tax revenue	6.9	8.0	8.4	7.9	9.9	7.7	7.2	7.1	7.5	7.1
3.1.1. Custom duties	2.5	3.4	3.7	2.9	3.0	2.3	1.9	2.1	2.1	2.1
3.1.2. Tax on goods and services	1.5	2.0	2.2	2.4	3.	2.2	2.4	1.7	1.7	1.6
3.1.3. Taxes on income	1.3	1.1	1.2	1.2	1.6	1.5	1.4	2.9	2.0	1.8
3.1.4. Corporate profit tax	1.1	0.9	0.8	0.9	1.7	1.3	1.2	…	1.3	1.3
3.2 Non-tax revenue	1.9	1.9	2.1	1.9	3.3	2.9	6.3	2.7	2.2	1.9

IMF Statistics. Note: * excludes grants

On the expenditure side, the Economic, Financial and Administrative Reform Programme (EFARP), implemented during the initial phase, 1995-98, served to reduce expenditure. And of this the proportion represented by current expenditures declined progressively between 1995 and 2003 from 87.9% to 74.7% (Table 4.3).

A significant proportion of public expenditure is wages in civil administration. The GoY commenced civil service reform in 1998[21], which led to an initial increase in the wage bill. This was reflected in a rise in the share of wages from 17.7% percent to 23% of total expenditures between 1997 and 1999. But the wage bill was contained by high inflation[22].

There were also changes in the patter of subsidies on wheat, flour and petroleum products. Changes in the exchange rate regime led to the replacement of implicit subsidies – created by below-market foreign exchange rates – with explicit cash subsidies[23]. After reaching a peak of 13% of GDP in 1996 these expenditures gradually declined between 1998 and 2003, following the introduction of explicit subsidies, to an average of 3.8% of GDP. Wheat and flour subsidies were entirely eliminated in 1999[24], though those on petroleum subsidies were not substantially reduced until mid-2005.

Balancing the budget has depended primarily, however, on changes in oil prices. This is indicated in Table 4.1.In 1998, a collapse in prices saw the deficit rise to 6.8% of GDP, while in 2000, swelling oil prices led to a fiscal surplus of 8%. Even so, after

[21] IMF (2001) Page 68-69
[22] IMF (2001) Page 68
[23] IMF (2001) Page 62
[24] IMF (2001) Page 64, Box 1

2002, Yemen's fiscal balance turned negative despite rising oil revenues (Figure 4.1) – largely the result of a rise in government expenditures from 35% to 38% of GDP.

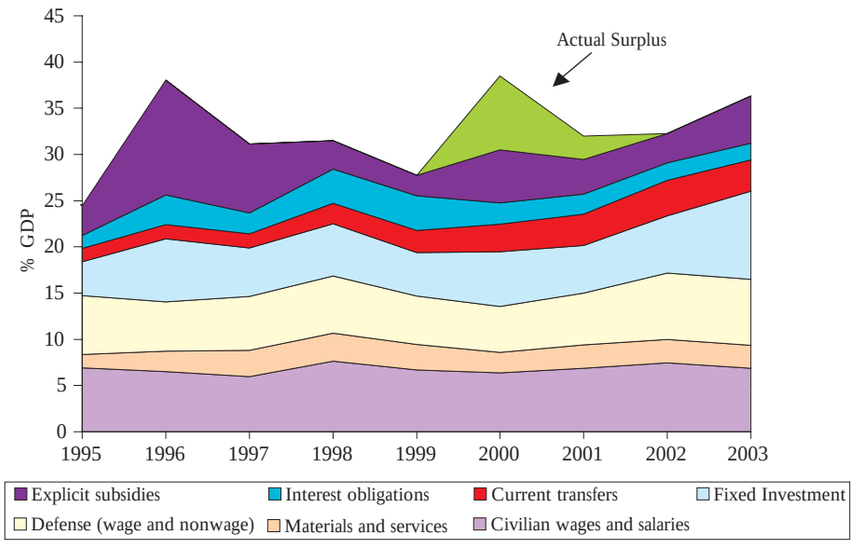
Although in order to maintain fiscal discipline the government needed to control the rise in petroleum subsidies – from 3% to 5% of GDP between 2002 and 2003 – it did manage to increase development expenditure from 7.1% to 9.7% of GDP.

Overall, judging by the evolution of Yemen's fiscal stance between 1995 and 2003, the adjustment programme had a limited impact. Oil revenues continued to have a major effect on total revenues while tax reforms did not trigger a significant rise in non-oil revenue.

4.1.2 Trends in government spending

Figure 4.1 provides a breakdown of government spending. It reveals that between 1995 and 2003 a significant part was for military purposes. In 2003 military expenditures were equivalent to 75% of total current expenditures on civilian services. In fact, if military expenditures were excluded, government current expenditure on public services, which includes public administration, law enforcement, health, education and other government services, would fall well below 10% of GDP.

Figure 4.1: Composition of government spending, 1995-2003



Sources: IMF, IFS, May 2005, and IMF, 2004.

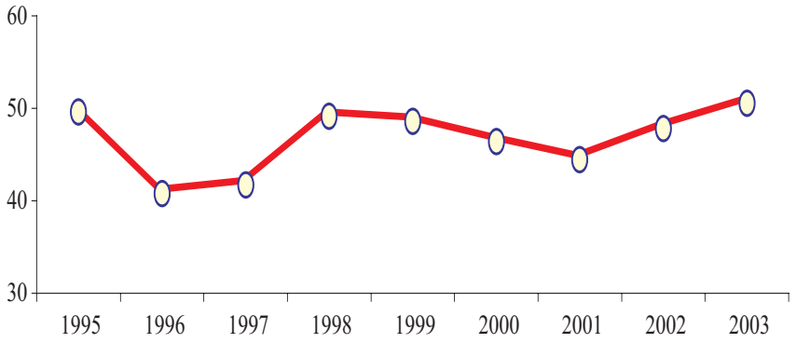
As a result, development expenditure is relatively low. The combined share of investment and current expenditures on non-military services, which are the only components of government spending with direct developmental effects, was still less than 20% of GDP; indeed, throughout the post-reform period up to 2002 it was no more than 15% (Table 4.3).

This is of extreme concern in a country with a very limited private sector and where the government has to play a critical developmental role. As shown in Figure 4.2, throughout the post-reform period (until 2003), 'productive' spending – current spending on non-military public services plus fixed investment – has been below 50% of total government spending. This phenomenon has been due not only to relatively high levels of military spending but also to the absorption of resources by other kinds of government spending.

Table 4.3: Evolution of the shares of revenue items and expenditure categories (%)

Item	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003				
1. Total revenues and grants					100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
1.1. Total revenue					94.4%	95.2%	98.1%	98.7%	98.4%	98.5%	99.2%	98.3%	98.5%	97.1%	96.7%	99.1%	95.2%	98.8%
1.1.1. Oil and gas revenue					37.9%	40.7%	29.2%	28.2%	28.9%	47.7%	69.9%	67.4%	52.1%	62.3%	62.3%	71.5%	66.4%	71.4%
1.1.2. Non oil revenue					56.6%	54.5%	68.9%	70.5%	69.5%	50.3%	29.2%	30.9%	46.4%	34.8%	34.4%	27.7%	28.8%	27.4%
1.1.2.1 Tax revenue					41.4%	39.8%	54.7%	57.0%	53.9%	41.0%	23.4%	24.9%	34.9%	25.3%	18.4%	20.0%	22.3%	21.6%
2. Total expenditure					100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
2.1 Current expenditure					73.1%	86.7%	88.2%	88.1%	91.0%	87.9%	83.4%	80.5%	81.2%	82.5%	82.8%	77.0%	79.6%	74.7%
2.1.1. Civil administration wages					28.5%	33.9%	34.6%	36.3%	33.4%	28.5%	17.1%	17.7%	23.0%	23.0%	20.4%	21.1%	22.1%	18.4%
2.1.2. Defence					26.0%	29.6%	30.8%	28.1%	33.4%	26.2%	14.1%	17.3%	18.7%	18.1%	15.9%	17.3%	21.2%	19.0%
2.2. Interest obligations					7.4%	9.6%	6.6%	8.8%	10.0%	5.9%	8.3%	6.8%	11.3%	12.8%	7.4%	6.5%	5.7%	4.9%
2.3. Explicit subsidies					0.0%	0.0%	0.0%	0.0%	0.0%	13.3%	32.7%	22.1%	9.2%	7.7%	18.4%	11.5%	9.3%	13.7%
2.4. Current transfers					5.3%	7.3%	8.3%	9.2%	7.9%	5.9%	4.0%	4.6%	6.7%	8.3%	9.6%	10.5%	11.4%	9.0%
2.5. Development expenditure					26.9%	13.3%	11.8%	11.9%	9.0%	12.1%	16.6%	19.5%	18.8%	17.5%	17.2%	23.0%	20.4%	25.3%

Figure 4.2: Government's productive budgetary spending (% of total spending, 1995-2003)



Notes: Productive spending is defined as the sum of government expenditure on non-military public services plus fixed investment.

Explicit subsidies

In the years immediately after the start of the reform programme, there was a rapid rise in explicit subsidies. This happened during a period of large increases in government revenues as the official exchange rate was devalued and the government's oil revenues were valued at the market rate. By 1996, explicit subsidies had risen to 13% of GDP (Table 4.1), though they were rapidly reduced in the following three years when the government removed food subsidies and substantially reduced energy subsidies.

By 1999, explicit subsidies had fallen to 2.4% of GDP. This constituted a substantial redistribution of income from the private sector to the government. In subsequent years, however, the government was reluctant to adjust domestic prices to international oil prices particularly for diesel, As a result, explicit subsidies started to increase and by 2003 had reached 5% of GDP.

Some might argue that this is beneficial because it puts resources into the hands of the private sector – which might make better use of them than the government which has a poor record in using revenues to provide effective public services or invest in infrastructure. There are, however, flaws in this argument. One concerns the form that explicit subsidies have taken. Until recently they were, by and large, on oil derivatives, and particularly on diesel oil, which has led to unsustainable farming practices and inefficient use of water in agriculture, as well as other inefficiencies in the economy, such as the use of diesel fuel for private electricity generation. Furthermore, with declining oil revenues, the payment of such subsidies had become increasingly impractical.

The same funds could be used better for investment in the agricultural sector – namely, in improving the efficiency of water use in irrigation and in improving the productivity of rain-fed agriculture. This would also help relax budget constraints, since the resulting productivity improvements could increase future tax revenue.

Current transfers

In the post-reform period current transfers have been steadily growing and have now reached 3%-4% of GDP (Table 4.1). A growing proportion of these are to households, particularly to safety net programmes such as the social welfare fund, which was set up in 1997 to protect the poor from the adverse effects of the adjustment programme.

This fund has had a growing number of beneficiaries – from 39,000 people in 1997 to 350,000 in 1999, and then to 650,000 in 2004. It provides cash assistance per family that ranges from YR 1,000 per month for a one-member household to a maximum of YR 2,000 for households with five or more members. Converting the value of the cash transfers to 1998 prices, a beneficiary could receive a transfer varying between a maximum value of YR 21 a day for a one-member household and YR 8 a day for a five-member household. Total disbursements by the social welfare fund have been increasing rapidly, and currently stand at over 1% of GDP. Nevertheless, given the 1998 lower poverty line of YR 105 the payments are clearly inadequate.

A better use of 1% of GDP would have been to earmark it at the outset of the reform programme to a national campaign for reducing fertility rates, possibly combined with a national pension scheme as an incentive for young poor couples to keep their fertility rates low. If this had brought down the population growth rates by one percentage point it could have had an enormous cumulative effect on reducing poverty and improving the growth potential of the economy. Such a campaign in Iran, for example, brought down the population growth rate from 3.5% per year to below 2% in less than a decade. This is only one example of what could be achieved if social policy were conceived as an integral part of a reform package oriented towards long-term development goals.

Interest payments

As shown in Figure 4.1, the government's interest obligations rose rapidly during the first few years of the economic reform programme, reaching 4% of GDP in 1998 and 1999. This was due mainly to the steep interest-rate increases on domestic loans introduced as part of the reform programme. In subsequent years, following the rapid reduction in the government's indebtedness to the banking system, and the lowering of nominal interest rates by the central bank, domestic interest obligations declined. Nevertheless, by 2003 interest payments still constituted 1.8% of GDP.

The increase in interest rates was the centrepiece of the reform's monetary and financial policies. The assumption was that the government's access to cheap credit from the banking sector was crowding-out bank credits to the private sector. The aim was to allocate capital more efficiently by bringing interest charges closer to the opportunity cost of capital. Government indebtedness to the banking sector has indeed been reduced. Since 2000, the government has utilized its growing oil revenues to build up a hefty credit position at the central bank, and has shifted its portfolio of domestic loans to treasury bills or loans from commercial banks at market rates of interest.

4.1.3 Institutional and strategic initiatives: fiscal components

The Economic, Financial and Administrative Reform Programme

The Economic, Financial and Administrative Reform Programme (EFARP) was launched in 1995, with the support of the World Bank and the IMF, in order to stimulate economic growth and improve the standard of living of the population.[25] This strategy emphasized fiscal and monetary discipline and the need to reduce dependency on the oil sector. In the design of EFARP, the government paid special heed to four central challenges:

- The potential adverse fiscal effects on vulnerable groups;
- The expansion of the role of the private sector in the areas of investment, production and employment;
- Raising productivity; and
- Building capacity for implementing the programme.

Growth certainly increased following the reforms – from 4% to an average of 6.1% between 1995 and 2000. But this stemmed not from the reforms but from the oil bonanza. Similarly, the reduction of the budget deficit, from 16.2% to 6.1% between 1994 and 1995 was due mainly to increases in oil revenues rather than enhanced tax revenues or expenditure cutbacks. This analysis was confirmed by the sharp reversal of the positive trends when oil prices collapsed in 1998.

Strengthening Economic and Financial Management

The reform programme was complemented by a technical assistance project: Strengthening Economic and Financial Management (SEFM), supported by UNDP, UNCTAD, IMF and DFID. In its first phase this sought to improve the government's economic and financial management capacity through improvements in tax and customs administration, budget management, bank accounting, and the prudential supervision and production of national accounts statistics. The second phase, which started in 1997, provided significant additional resources to strengthen and broaden the initial reforms. After a positive evaluation of the first two phases, a third stage started in 2002. However, the IMF gradually withdrew from this initiative and, without its technical assistance, the project ended in 2004.

The Poverty Reduction Strategy Paper, 2003-05

The government started the preparation of the PRSP by developing the Interim Poverty Reduction Strategy Paper (I-PRSP). It used this document as a basis for discussions, held at the governorates level during June-October 2000, of its Strategic Vision 2025 and its framework for the Second Five Year Plan. By 2003 it was ready to implement the full PRSP – which stressed three major sets of problems:

[25] For a detailed exposition of the elements and the sequencing of reforms, see IMF (2001).

- The limited nature and extent of economic growth
- High population growth and the poor development of human resources and infrastructure
- Weak levels of social protection

The PRSP targeted a reduction of poverty by about 13 percentage points during the period 2003-05 so that the poverty incidence would fall to 36% in 2005. This objective required 4.7% annual real GDP growth – including 5.7% growth for the non-oil sector. The strategy also set a number of sectoral objectives and mapped out four main pillars for interventions:

- Achieving economic growth
- Human resources development
- Improving infrastructure
- Ensuring social protection

The progress report on the Interim PRSP underlined that Yemen had been broadly off-track both in terms of macroeconomic management and poverty reduction. It pointed out that non-oil growth was only 4.6% – lower than the 5.7% target — that inflation was running at 14%, that the balance of payments surplus was only $336 million and that in 2003 current expenditures has surged by 20%. The PRSP estimated that local resources and current external assistance would not suffice to achieve the Millennium Development Goals by 2015.

The GoY has nevertheless repeatedly expressed its commitment to the MDGs and has aligned its poverty reduction strategy with the goals in a single framework. In August 2004, it initiated an MDG needs assessment that will be a major input into current preparations for the new Five Year Plan.

4.2 Yemen's fiscal challenge: the IMF view

A convenient reference point for discussing Yemen's fiscal challenges is the recent country report prepared under Article IV of the IMF's Articles of Agreement. It assesses Yemen's macroeconomic outlook and presents two scenarios for the medium-term economic outlook until 2009:

1. A non-adjustment scenario that illustrates the unsustainable nature of Yemen's current fiscal stance.
2. An adjustment scenario based on a series of fiscal measures aimed at raising tax revenue, reducing expenditures and strengthening tax administration.

The main underlying assumptions of the macroeconomic forecast are:

- Oil production declines at an annual rate of 5% and reserves are depleted over the next 12 to 14 years
- The debt-to-GDP ratio is maintained at 50%
- Grants are limited to about 1% of GDP

The IMF analysis concludes that "a cumulative adjustment of about 22.5% of GDP in the non-oil primary budget deficit is needed by 2016 (when oil will be virtually depleted) to bring Yemen closer to a sustainable long-term path"[26]. The main implications of these two forecasts through to 2009 are presented in Tables 4.4 and 4.5.

Table 4.4: Key macro-fiscal forecasts for 2006-2009 under a non-adjustment scenario (% of non oil GDP)

Item	2006	2007	2008	2009
Total non-oil revenue	13.8	14.2	14.1	14.5
Tax revenue	10.8	11.3	11.3	11.6
Non-tax revenue	3.0	2.9	2.8	2.8
Current expenditure	32.3	29.3	28.6	28.2
Development expenditure	10.8	10.3	9.9	9.7
Current surplus1	-5.0	-9.1	-11.6	-13.4
Overall deficit (per cent of Total GDP)	-12.0	-16.0	-18.9	-21.9

Source: IMF, 2005

Table 4.5: Key macro-fiscal forecasts for 2006-2009 under an adjustment scenario (% of GDP)

Item	2006	2007	2008	2009
Government revenue, excluding grants	26.5	23.9	22.1	21.2
Government expenditure, net lending	34.1	33.1	33.3	33.5
Current surplus	-4.2	-7.3	-9.3	-10.6
Overall deficit	-6.8	-8.4	-10.5	-11.6

Source: IMF, 2005

If the recommended adjustment package is implemented, the macro fiscal projection for 2009 is as follows:

- Total revenue declines from 30% of GDP to 21% of GDP between 2005 and 2009 – i.e. a loss of 9 percentage points of GDP
- This decline is caused by the fall of oil revenues by 11.5 percentage points of GDP
- Non-oil revenues are projected to rise by 3% of GDP, as a consequence of the IMF recommended adjustment measures.

[26] IMF, 2005." Republic of Yemen: 2004 Article IV Consultation – Staff report; Public Information Notice on the Executive Board Discussion; and statement by the Executive Director for the Republic of Yemen". Page 9, paragraph 13.

Box 4.1: IMF recommendations for fiscal reforms in Yemen

In order to raise tax revenues – which represent about 10% of non-oil GDP – and move to a post-oil economy within 15 years, the IMF recommends the following reforms for tax policy administration and public expenditure management:

Tax policy and administration

- Introducing a 10% General Sales Tax (GST) is supposed to generate between 3% and 5% of GDP
- Eliminating customs exemptions and fighting smuggling could potentially increase customs revenue by at least 1%
- Applying an excise tax on petroleum – after the elimination of petroleum subsidy- of 5% by 2007 could generate 1.5% to 2% of GDP in additional revenue
- Strengthening the tax and customs administrations could provide about 0.5% to 1% of GDP over the long term

Public expenditure management:

- Eliminating petroleum subsidies would save the budget 6% of GDP, which could be used to mitigate the adverse effect of the removal on the poor, and to finance social spending

Source: IMF, 2005

Given the assumptions of the IMF adjustment scenario, the fiscal deficit would increase from 4.7% to 11.6% of GDP between 2005 and 2009.

4.3. A Review of fiscal challenges and recommendations

4.3.1 Revenue challenges

Our assessment of Yemen's fiscal prospects is more optimistic than that provided by the IMF although not markedly so. We are more optimistic about the prospects for expanding fiscal space (Box 4.2). We also project that Yemen should be able to mobilize at least 15% of GDP in non-oil revenue. This is consistent with the revenue projections in Box 2.1 that improvements in tax policy and administration could garner increased revenue of 6%-9% of GDP. In 2003, the ratio of non-oil revenue to GDP was 9% – a historically low level. In 1998 and 2000, this ratio reached about 13%. So, in historical perspective, assuming that Yemen can achieve a ratio of 15% is not unrealistic.

Many poor countries rely on tariffs, excise taxes and seignorage in order to raise public revenue. Although Yemen has dramatically opened its economy, the government could still modestly boost tariff revenue (by 1%-1.5% of GDP) through strengthening customs administration, combating smuggling and reducing exemptions. Also, as the IMF has recommended, an excise tax on petroleum could raise 1.5%-2% of GDP in additional revenue.

Box 4.2: How to create fiscal space

A country can mobilize resources in the following major ways:

- *By increasing tax and non-tax revenues*. This source of revenue is the most preferable from the government's perspective, since it generates no future fiscal liabilities. However, taxation can have a variety of macroeconomic and sectoral effects on the spending and investment decisions of economic agents, which can have implications for equity, efficiency and growth.
- *By borrowing from the domestic private sector*. This source of revenue is attractive since it represents a transfer from the domestic private sector to the domestic public sector and so does not directly increase the country's liabilities to the rest of the world. It could also increase the propensity to save to the extent that the borrowing reduces domestic consumption. It could however, under some circumstances, crowd out private investment and have adverse distributional implications depending on the precise nature of the borrowing. It could also have inflationary consequences if domestic absorption increases significantly before public investment generates increased output. Finally, borrowing for government consumption usually has negative implications for growth since it can reduce national saving to the extent that the borrowing is financed out of private saving.
- *By borrowing internationally***.** This type of borrowing results in an increase in international debt and creates liabilities for the country. It represents a temporary increase in domestic resources that can be amortized only if the payback from the investment of these resources results in an increase in GDP greater than the net present value of the loan. The greater the degree of concessionality in such borrowing (zero, in the limit when the international transfer is a full grant), the lower the net present value of the debt.

The GoY also needs to address indirect taxation. Even though the economy grew over the period 1995-2003 indirect taxes – on goods and services – fell from 2.0% to 1.6% of GDP. This is why a General Sales Tax (GST), or a similar broad-based consumption tax, now makes sense . A 10% GST could raise as much as 5% of GDP in new revenue. But the government would need to consider the distributional consequences of such a tax which could be regressive. It should also consider increasing the level of taxation of qat.

Income tax offers more limited scope. With such a small formal sector, a realistic objective would be to garner an additional 1% of GDP from taxes on personal income and corporate profit, though this would need to be accompanied by a strengthening of tax administration. Some people have advocated dramatically lowering top tax rates on personal or corporate income. The Government should decline these standard recommendations. Such efforts are frequently ineffectual in raising more total revenue and also weaken the vertical equity of a tax system. In any case, as the formal economy grows, revenue from such direct taxes is bound to rise. Instead greater vertical equity as well as more revenue could be gained through such measures as a land tax on large farm holdings, which are more common nowadays, and a tax on urban real estate. This would give the tax system a slightly more progressive structure.

Since much economic activity for many poor countries occurs in the 'informal' sector an important source of revenue is often an inflation tax. For such countries, 10-15% of their revenue comes from 'seignorage' which is the difference between the face

value of money and the cost of manufacturing. Governments can thus get more revenue by printing more money, though at the cost of inflation it.[27] Trying to squeeze inflation out of such countries has a cost in terms of lost revenue. Drastically reducing the inflation tax and dramatically lowering tariffs (another important source of revenue) would drive down the revenue of these countries without providing alternatives sources that could adequately compensate for the loss. Tariffs account for 18% of Yemen's revenue, for example. Partly because of small formal sectors, low-income countries can make up for only 30% of the revenue lost from trade liberalization.[28]

All of the above measures should be part of a coherent Tax Policy Master Plan, which has the long-term objective of substantially raising non-oil revenue, and doing so in an equitable way.

Yemen also has another important potential source of revenue: their foreign-exchange reserve which currently averages 14-15 months-worth of imports. The standard recommendation is to hold, for precautionary purposes, an amount worth six months of imports – or an amount equal to total short-term external debt. By holding much higher reserves, Yemenis paying a high opportunity cost since at least half of this amount could be devoted to financing domestic investment. It is also paying an additional cost when it has to sterilize the monetary impact of its reserves by selling government securities at an interest rate that is higher than it receives from the reserves themselves. Further, it runs a risk of incurring losses from exchange-rate movements, such as depreciation of the US dollar.

Instead the government could deposit six-months-worth of these reserves in an investment fund devoted to expanding badly needed economic and social infrastructure. This would be an additional means of expanding fiscal space.

Like the IMF, we also project a decline in oil revenue. However, the dynamics of global oil supply and demand have changed since the IMF made its calculations. The rise in oil prices should buoy Yemen's prospects for maintaining moderate levels of oil revenue through 2010 and beyond. If we assume conservatively that oil revenue can be maintained at 5% of GDP, then the underlying revenue base should be at least 20% of GDP. If oil prices continue to rise and the government is more assertive in mobilizing non-oil revenue, the revenue base could reach 25% of GDP.

4.3.2 Reducing expenditures

Even such optimistic projections do not imply that the government will be able to avoid fiscal deficits – whose size will depend on its ability to cut non-essential expenditures. In 2003, the fiscal deficit stood at 5.2% of GDP and is projected to be about 5% in 2005.

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[27] Roger Gordon and Wei Li. 2005. "Tax Structures in Developing Countries: Many Puzzles and a Possible Explanation". March. Draft research paper, University of California-San Diego.

[28] Thomas Baunsgaard and Michael Keen. 2004. "Tax Revenue and (Or?) Trade Liberalization." Fiscal Affairs Department, International Monetary Fund, September 20 Draft.

In 2003, current expenditures were about 28% of GDP and capital expenditures were another 10%. Current expenditures have to be reduced by at least 10 percentage points. Five to six percentage points can be achieved through eliminating petroleum subsidies. In this regard, the government has already taken a big step in 2005 by raising energy prices – increasing gasoline prices by 90% and more than doubling diesel prices. The best option is to earmark the resultant funds for investment in agriculture which would not only be more equitable but also more productive. This would effectively compensate any short-run effect on people's welfare and generate=future tax revenues.

Another three percentage points of GDP could be achieved through lowering military expenditures from7% to 4% of GDP. Lowering transfers, by having a better focused social welfare fund, and lowering debt repayment, by reducing interest rates, could also offer about two percentage points.

Fortunately, development expenditures have been on the rise: between 1995 and 2003 they increased from 12% to over 25% of total expenditure – or almost 10% of GDP. This trend should be reinforced, not only because it will stimulate more growth but also because such growth will generate more public revenue. Capital expenditures should be maintained at 10% of GDP. This level should be regarded as a bellwether for Yemen's ability to lay the foundations for sustainable economic growth and development.

How can more funds be directed to essential public investment? Any increases in domestic revenue beyond 20% of GDP should be prioritized for public investment. Other funds could be reallocated – for example, from the Social Welfare Fund to small-scale community infrastructure.

But there would also need to be an increase in official development assistance. In 2003 ODA was only 3.5% of GDP. This amounted to only $12.7 per person – the lowest level among the Least Developed Countries in the Arab Region. Djibouti, for example, received $110 per person in ODA. In fact, doubling ODA would only bring the per capita level back to that in 1999, $26.9.

ODA would be needed to cover deficits that could approach 8% of GDP. Doubling ODA could contain deficits at under 5% of GDP. This assumes that current expenditures can be contained at about 18% and capital expenditures will be maintained at about 10%. Thus, ODA will be mobilized primarily to finance public investment.

Box 4.3: Some features of the budgeting process in Yemen

The process begins with a discussion between line ministries and officials of budget department on proposed budget by the former. The discussion is essentially a bargaining process since the proposed budgets rarely contain any detailed information on the nature of spending programmes. Thus, the budgeting process is likely to suffer from allocative inefficiency. The absence of detailed information on planned expenditures and the lack of transparency make it very difficult to set up the appropriate public objectives as the exercise becomes driven, primarily, by political rather than social or economic rationales. This constitutes a serious distortion in the allocation of public funds. Once the Budget Department has prepared a draft of the proposed budget, this draft is sent to the High Economic Committee, which often approves it. This approved draft is forwarded to the Council of Ministers, which also approves it once it ensures that the proposed budget does not exceed a ceiling agreed with the representatives of the International Monetary Fund. For that reason, the MoF negotiates with the team of IMF while it is preparing the draft of proposed budgets.

Other features that characterize the budgeting process are:

- Deficits are financed by reducing capital expenditure. However, the opposite is not true. That means that in the case of surplus, the capital expenditure will not increase.
- Many ministries and public units prefer to finance some of their activities through extra budgetary mechanisms so as to have direct control of these funds.

Source: Al Asaly (2005)

4.4 Concluding Remarks

The current boon of increased oil revenues in Yemen needs to be harnessed to finance extensive public investment and build a financial system to adequately fund private investment. This will help accumulate permanent productive wealth to compensate for any future decline in oil production.

Such productive wealth will generate increased and sustainable flows of income, which can provide a level of tax revenue that can eventually replace depleted oil revenue. The GoY is currently able to mobilize relatively low non-oil revenues. But it has to plan for long-term development based on predictable flows of 'permanent income' – income that can be utilized without reducing the country's net wealth.

This strategy will nevertheless be sustainable only if it increases Yemen's productive base and raises domestic resource mobilization to cover recurrent expenditures. Official development assistance can play a useful role in compensating for the decline of oil revenues and thereby making the flow of government revenue more predictable. Such ODA support could help reduce the need to hold large pools of investible resources in a surplus oil fund and pile up a large stock of foreign exchange reserves. In the long term, ODA-financed scaling-up of development resources to achieve the MDGs will be sustainable only if it enhances the size and structure of Yemen's productive base so as to foster higher domestic resource mobilization. The key variable in this context is the ratio of gross national savings to GDP. Reforms in the financial system, which are

covered in Chapter 5 of this report, are thus absolutely critical to augmenting domestic savings, as well as boosting private investment.

This chapter takes a cautiously optimistic view of the prospects for Yemen's development. While it shares the conventional assumptions about the depletion of Yemen's oil reserves, it proposes feasible options not only to raise more non-oil revenue but also to reduce non-essential public expenditures, so that government deficits are maintained within manageable levels. If ODA were to double, then a significant proportion of such deficits could be used to finance essential public investment in economic and social infrastructure and build up a viable, resource-mobilizing domestic financial system. Reducing subsidies has thus far allowed the fiscal authority to meet increases in public expenditure without running a deficit. However, there is not much room to reduce subsidies further since the government has abolished most of them. Therefore, in the absence of ODA any future increase in public expenditure means a higher deficit. But there is also need for implementing a wide range of other measures to increase the transparency of the budgetary process, such as:

- Ensuring the compatibility between budget goals and the medium-term economic framework.
- Reviewing budget goals with employment generation and pro-poor growth primarily in mind.
- Opening channels for discussing medium-term economic and budget goals with different social and interest groups.
- Developing more objective criteria for public expenditure allocation
- Implementing effective methods to collect and analyse data
- Designing appropriate criteria for evaluation
- Delegating budget implementation to the line ministries.
- Enforcing budget monitoring.

Taken together with the analysis of the trends in Domestic Resources for Development and Investment in Chapter 2 and the resource gap in Chapter 3, the impact of declining savings for financing public investment and fostering human development represents a major challenge for enhancing fiscal space.

The next chapter of this report addresses this issue when it examines financial sector reforms. Without major revamping of its financial system, Yemen will not be able to mobilize adequate domestic savings in order to finance productive investment, whether public or private. A well functioning and transparent financial system is also essential for mobilizing public revenue since collecting taxes often relies on the banks' record keeping systems to verify income.

Finally, although not part of the discussion in this Chapter, it is important not to overlook the role of traditional financing arrangements. As noted by Van de Walle (2002),[29] 64% of total transfers to the poorest 40% of the population are accounted for by these traditional arrangements – including transfers from relatives abroad and Zakat.

[29] Van de Walle, D., (2002), "Poverty and Transfers in Yemen"; Working Paper no. 30, MENA Region, World Bank.

This raises a number of issues. Should there be a major overhaul to modernize and institutionalized the social safety net system? What are the budget implications of such reforms? How would this affect the government's fiscal operations?

Another important result in Van de Walle's study is that "these transfers are rather well targeted. The poorest households (first decile) received 42% of total transfers in 1998. Furthermore, transfers account for 38% of total expenditures of those in the poorest decile; this rises to 56% for those in urban areas and drops slightly to 35% for those in rural areas."[30] For the richest decile, transfers account for 2.2% of total expenditure at the national level – 2.7% for urban and 1.6% for rural areas. These are attractive, progressive features of the current transfers system. One issue for decision makers is therefore how to integrate these positive features into the formal public finance and social safety net systems.

[30] See World Bank, (2003), Yemen Economic Update; Spring Issue, www.worldbank.org.

Chapter Five
Financial-sector development, growth and poverty reduction

5.1 Structure of the financial Sector

The formal financial sector of Yemen is composed of 11 commercial banks, two specialized state-owned development banks and four Islamic banks. Among the commercial banks, five are private and domestically owned (of which two have foreign shares of 22% and 25%), four are fully foreign owned and two are state owned, one fully and one partially. The largest bank, accounting for more than 20% of commercial bank assets, is the Yemen Bank for Reconstruction and Development in which the government has a 51% share holding. It has 37 branches, mainly in the northern part of the country. The other state-controlled bank, in this case fully government owned is the National Bank of Yemen which accounts for about 13% of commercial banks assets and operates mainly in the south, with 31 branches. The two state-controlled banks hold about one-third of the commercial banks' assets and their geographical presence still bears the legacy of the past.

The four private foreign owned banks are mainly branches of banks with headquarters in France, Pakistan, Jordan or Iraq, though the branch of the Iraqi bank has ceased operations since the second Gulf war. The branches of these banks are limited to the capital city, Sana'a and three other big cities, Taiz, Hodeidah and Aden.

The four Islamic Banks came into existence after 1995, and are joint ventures with Islamic foreign banks in Qatar, UAE and Jordan. Most have branches in the main cities. The largest is Tadamon, with a paid-in capital of YR 2,250 million and 13 branches.

The two state-owned specialized banks are the Housing Credit Bank and the Cooperative Agricultural Credit Bank. The Cooperative Agricultural Credit Bank has 34 branches and the Housing Credit Bank has only 2 branches. They have no branches outside Sana'a. There was one other specialized bank – the Industrial Development Bank of Yemen – but this was burdened by a large portfolio of non-performing loans, and was later liquidated.

Following the unification of the financial and banking systems of the north and south in 1994, the banking sector grew significantly. Between 1994 and 2003 the total assets of commercial banks rose from YR70.7 billion (about 23% of GDP) to YR563 billion (about 27% of GDP). However, the commercial banks only have about one quarter of' assets as credit to the private sector; the rest of their investment is in the form of foreign assets (28%), Treasury Bills, repurchase operations and certificates of deposit (27%) and deposits with the central bank (15%) (CBY, Annual Report, 2003, p. 44).

The banking sector is subject to very limited competition. Almost 70% of both deposits and loans are with the top four banks (IMF, 2001, p. 82). And in the retail market only the Tadamon Islamic Bank is in a position to offer some competition to the two state-owned banks. The foreign banks cater mainly to the corporate sector and operate only in the main cities.

Overall the banking system is weak, as reflected in the very high proportion of non-performing loans – about 19% of the total in 2003 – significant provisioning shortfalls and low capitalization, with a 'Cooke ratio'[31] of 5.2% (IMF, 2001, p. 82).

Outside the formal banking sector, there are 170 registered moneychangers. They operate all over the country but since they are not part of the banking system, their balance sheets are not included in the monetary survey. They do have to register with the Central Bank of Yemen (CBY), although some of them operate outside CBY control especially in small cities.

Yemenis working in various Gulf States predominantly use moneychangers for their remittance transfers. The CBY also uses them when it wants to intervene in the foreign exchange market.

Beyond the formal system there is a large informal financial sector. Many unregistered moneychangers have significant amounts of capital and are engaged in informal deposit taking and in short-term lending, primarily to finance consumption. They offer short-term credits to farmers, for example, during the off season for repayment when crops have been sold. Shop owners too often provide credit to low-paid employees to tide them over until salaries are paid at the end of the month. These short-term consumption loans usually attract very high interest rates – up to 15 percentage points above the commercial banks' lending rates (IMF, 2001, p. 54).

5.2 Financial sector reforms

In 1995 Yemen embarked on financial sector reforms. It has not, however, aimed at a completely laissez-faire financial sector but rather at minimizing economic regulations and strengthening prudential regulations.

In an effort to minimize economic regulations, for example, all concessional loan rates have been abolished and commercial banks are allowed to charge their own lending rates. The specialised banks, too, are allowed to charge market-interest rates. At the same time, the Agricultural Credit Bank is now allowed to take current deposits. However, the CBY retained some controls on deposit rates and established minimum benchmark commercial bank savings deposit rates. These were at high levels with a view to attracting new deposits, and although they were later adjusted downwards with the decline of inflation, the real deposit rates remained positive. This interest rate reform may have contributed to the significant rise in the non-government sector deposits with the commercial banks from YR28,255.5 million in 1990 to YR474,351.3 million by the end of 2003 – a nearly 17 fold increase in 12 years. A further sign of banking sector development is the decline in the ratio of currency in circulation to Rial broad money from 60% in 2000 to 51% by the end of 2003.

[31] Cooke ratio is the ratio between a bank's capital and its risk-weighted assets which includes both the on-balance-sheet and specific off-balance-sheet items. Capital, as defined by the Cooke ratio, is broader than equity capital. It includes core capital, supplementary capital (hybrid capital instrument such as perpetual preferred shares) and short-term subordinated debt with an original maturity of at least two years. According to the BIS standard, banks are required to maintain a capital amount equal to at least 8% of their total risk-weighted assets.

With a view to improving allocative performance, the reform measures addressed the problem of the concentration of credit to a small number of companies and groups of companies and the high prevalence of overdraft facilities. A circular was issued limiting total credit to such entities to 15% (and under certain circumstances to 25%) of a bank's total paid in capital and reserves. In addition, if the CBY determines that the interests of two or more groups of persons (or companies) are so intermingled that they should be regarded as a single entity then their liabilities should be combined into one. Almost 90% of the private sector credits are used for overdraft facilities. To fix these problems, CBY limited the total loans to any single company: these should not exceed 15% of a bank's total paid-in capital and reserves. The CBY can also, if necessary, change the interest rate on overdrafts. Because overdraft facilities also raise the risks the CBY introduced a new category of classification of exposures, called 'special attention'.

In order to protect the integrity of the banking sector, the reform measures also addressed the issue of insider lending. The CBY issued a circular that prevents lending to any insider except the following: (a) a member of the board of directors who is not involved in management, and for an aggregate amount that does not exceed one-half of 1% of the bank's total paid-in capital and reserves; (b) a shareholder owning 5% or more of the common stock or voting power, and for an aggregate amount less than 15% of the bank's total paid-in capital and reserves, (c) a senior employee for any amount that exceed that person's total annual wage and salary.

Further protective measures were introduced with regard to risk management. During 1996-97, the CBY issued a number of circulars dealing with risk management, loan classification and provisioning, foreign exchange exposure and external auditing. From early 1996, banks were required to report foreign currency positions. By the end of 1997, the minimum capital requirement was doubled to YR500 million which was then raised to YR1 billion in 1999. The commercial banks are required to maintain a minimum capital adequacy ratio of 25% of total amounts. Provisioning requirements for classified loans were set as follows: 15% for substandard loans (90 days past due), 45% for doubtful loans (180 days past due) and 100% for bad loans (more than 365 days past due). The CBY also introduced a notification system under which banks are notified on whether loan applicants are delinquent to other banks.

As part of prudential regulations, in 1995, the CBY required all commercial banks to have reserves of 10% of time deposits, with a maturity of 9 months or more, and 40% of more liquid assets at CBY. The CBY issued a directive to specify the requirements of documentation and reporting to improve commercial bank transparency. All commercial banks are required to hire an independent accountant for bank auditing. The new banking law of 1998 contained licensing standards similar to the Basle Core Principles. The law also stipulates severe punishment for those banks which do not fulfil the new requirements.

The main theme of financial reform was thus prudential regulations aimed at strengthening the supervision of commercial and specialized banks by the CBY. To perform its supervisory role the CBY was given more independence and it has launched an ambitious staff training programme.

With a view to revitalizing the banking sector and improving financial intermediation, the CBY collected all the bad debts of public enterprises to the commercial banks. The bad loans of the Cooperative and Agricultural Credit bank stand at YR4 billion. The total bad loans of the Yemen Bank for Reconstruction and Development (YBRD) were YR11 billion, and that of the National Bank of Yemen (NBY) was YR7 billion. The government recapitalized the YBRD and NBY for their bad loans. In order to relieve the commercial banks from the burden of loss-making public enterprises, the CBY also asked all public enterprises to move their accounts from commercial banks to the CBY. The government and CBY also plan to privatize two state-owned commercial banks, starting with the National Bank of Yemen, but the process has yet to start.

The CBY also called in the commercial banks to discuss their losses and they agreed to create reserve funds with a maximum of 8% of their total capital to meet bad loans.

Nevertheless implementation and enforcement of many of the reforms has been weak. A World Bank assessment of compliance with the Basle Core Principles methodology, for example, revealed that banks were either compliant or largely compliant with only 10 of 24 principles (IMF, 2001, p. 82). Most banks are still undercapitalized and their capital has yet to reach the YR 1 billion required by the law. Nor are banks observing the requirement of a loan ratio of 15% of capital and reserves.

Supervision is compromised, since the auditing practices are still inadequate the reporting of commercial banks to the CBY is incomplete or sporadic. And there is still widespread insider lending. According to the recent World Bank report (World Bank, 2002), most Yemeni banks are owned by a few large businesses who are not only often the main borrowers from their respective banks but directly involved in their operations. They are also largely responsible for the high level of non-performing loans.

The World Bank report summarises the problems of the banking sector as follows: “Weakness in the legal and judicial framework, lack of proper accounting and auditing standards and disclosure practices, and a scarcity of banking and financial skills remain significant impediments. In particular, there is a pressing need to improve the functioning of commercial courts and the judicial processes for recovery of bank and other debts.” (World Bank, 2002, p. 69).

To some extent, these weaknesses may be the result the financial sector reform measures, especially interest rate liberalization. High deposit rates aimed at attracting deposits forced the banks to raise their lending rates. This reduced the scope for profitable investment, and invites risky investors. In the absence of a sound judicial system, the banks can minimize the problem of adverse selection by resorting to relationship-based lending which in this case means insider lending. Ironically, insider lending is the main cause of a high prevalence of non-performing loans with which the banking sector has been saddled.

5.3 Financial intermediation and poverty reduction

Financial sector reform should have positive effects on savings, financial deepening and the efficiency of financial intermediation. Contrary expectations, however, it seems

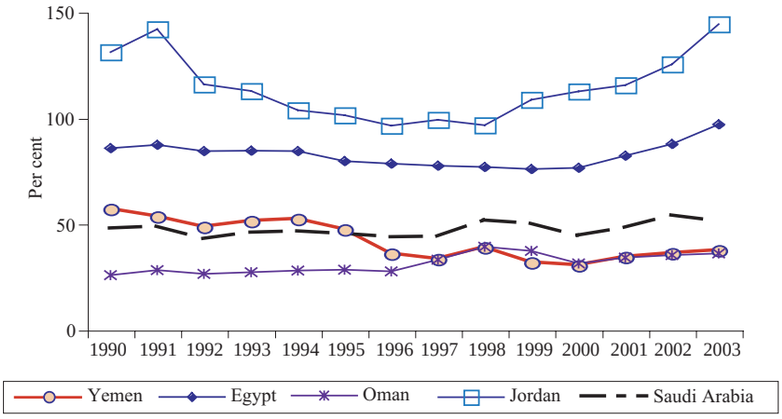
that the high bench-mark deposit rates and real positive interest rates have failed to increase private savings – an experience common in many other countries. In fact between 1998 and 2003 the private savings rate as a proportion of national disposable income declined from 27% to 13%. This may be because tight monetary policy aimed at keeping down inflation may have hardened the liquidity constraint – forcing people to reduce savings to meet their consumption needs (IMF, 2001, p. 129). When rates rise in the official market, they also rise in the informal market where most poor borrow.

Financial sector liberalization was expected to bring other benefits but these have yet to be fulfilled. It has not, for example, boosted the intermediation role of the financial sector which is still very shallow. Yemen's ratio of M2 to GDP, which is an indicator of financial deepening is the lowest in the Arab countries. Most people still use cash as the medium of exchange, as reflected by a low ratio of M1 to currency in circulation. These indicators have not increased since the launching of financial reforms; indeed since 1995 the ratio of M2 to GDP has declined (Figure 5.1).

In line with a very shallow financial sector, the money multiplier – the ratio of broad money to reserve money – is also very low, less than half that in Jordan, for example, a country of comparable size (Figure 5.2). Between 1990 and 2000 the money multiplier did increase somewhat, indicating a slight improvement in the efficiency of the banking system, but since then progress seems to have stalled and the ratio between broad and reserve money has remain around 2. In addition, in 2003 the domestic money multiplier – the ratio between Rial money and Rial component of reserves – was only 1.2.

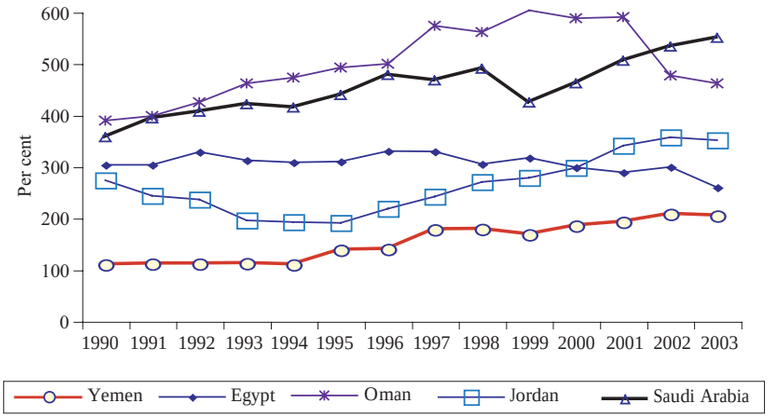
The inadequacy of financial intermediation is also reflected in the low ratio of private-sector credit to GDP which is lower in the Yemen than in any other Arab country. (Figure 5.3). Yemeni commercial banks find it more profitable to keep their assets abroad rather than lend to the private sector. In 2003, they kept 28% of their assets as deposits with banks abroad compared to 24% in the form of advances to the private sector.

Figure 5.1: Ratio of money supply (M2) to GDP (%), 1990-2003



Source: IFS, IMF, April 2005.

Figure 5.2: Ratio of broad money to reserve money (%), 1990-2003



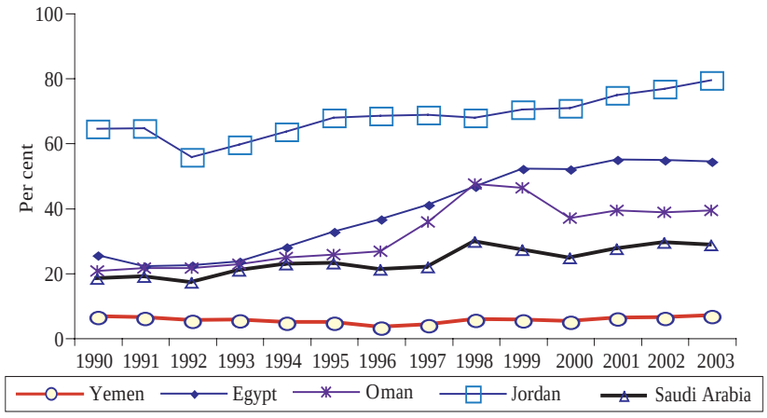
Source: IFS, IMF, April 2005.

This is partly because they receive a high proportion of their deposits as dollars – 50% in 2003 (CBY, Annual Report 2003, p. 47)[32]. In the absence of demand for credits in dollar terms for domestic activities, one way the commercial banks can afford to pay interest on dollar deposits is by investing abroad, which means capital flight.

A further sign of inefficiency in financial intermediation is the low ratio of loans to deposits in Yemeni Rial – at the end of 2003 only 31%, the lowest of comparable Arab countries (Figure 5.4). Indeed, between in the early 1990s and the end of 2001 this ratio declined, from 60% to 37%. However, we should also note that between 1994 and 2003 credit to the private sector, as a proportion of non-oil GDP, increased from around 5.4% to close to 10%. And in real terms, when deflated by the non-oil GDP deflator, between 1994 and 2003 private-sector credit grew by around 12%.

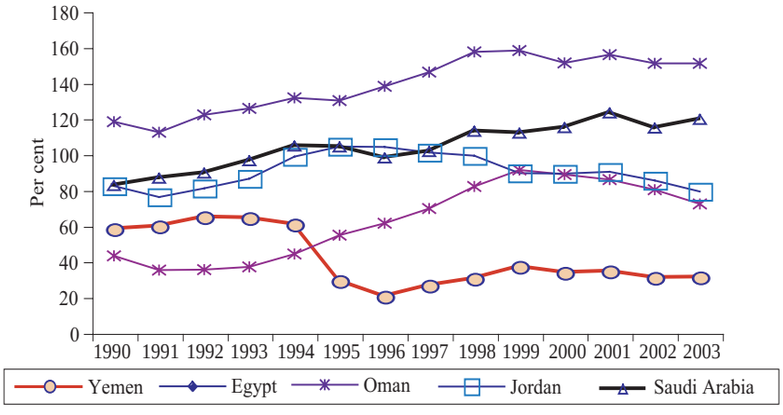
[32] CBY Annual Report, 2003 also puts this figure at 51.2% (p. 6).

Figure 5.3: Credit to the private sector, % of GDP, 1990-2003



Source: IFS, IMF, April 2005.

Figure 5.4: Claims on the private sector, % of deposits, 1990-2003



Source: IFS, IMF, April 2005.

These macro-level indicators are consistent with the findings of a 2001 World Bank survey of the private sector. This found, for example, that 53% of firms did not have a bank account. This survey also examined where firms got their short-term and investment financing: less than 3% came from commercial bank credit while 73% came from resources from within the firms; the rest was from suppliers, around 19%, and family and friends, around 5%. One-third of respondents identified lack of access to credit as one of the obstacles for their business. Micro, small and medium enterprises (MSMEs) are particularly affected by the lack of access to credit. In a survey by the ILO), MSMEs ranked access to credit fourth among the top ten problems (ILO, 2002). It is difficult to assess however how access to institutional credit has been affected by the closure of the Yemen Industrial Bank.

The situation described above largely refers private and mainly urban-based activities, but is similar in the rural sector. Farmers are very unlikely to borrow from the formal sector whose loans represent less than 1% of agricultural output – far lower than in similar countries (World Bank, 1993) and round 80% of farmers have no outstanding loans. According to one World Bank study the main informal sources of credit in rural areas were:

- Input suppliers/traders: 27%
- Other farmers: 13%
- Friends and relatives: 60%

Interest rates in the informal sector are up to 200% per annum – and loan from friends and family would have become very difficult following the first Gulf War since these often rely on remittances from Yemenis working abroad.

At Yemen's current level of development one might expect most long-term finance to come from the banking sector. But it is clear that currently it contributes relatively little to the growth of the economy or to poverty reduction. Instead the banks concentrate on trade finance or on short-term lending, which in 2003 accounted for about 37% of total loans; only 4% of their lending was for medium or long-term loans.

Nor do the commercial banks have much to do with poverty reduction; they have few operations in the rural areas where around 80% of the poor live. Their neglect of the rural and agricultural sectors is clear from the distribution of their credits (Table 5.1). Between 2000 and 2003 the proportion of their lending going to agriculture declined from 3% to around 0.6%, while over the same period the proportion going to trade finance increased by 7 percentage points and to the construction sector by 3 percentage points.

Unfortunately the decline in commercial bank credit to the agricultural sector has not been offset by the specialized institution, the Cooperative Agricultural Credit Bank (CACB). Between 1998 and 2003 its loans increased only from YR3,384 million to YR4,430 million. At the same time CACB invested YR6,160 million in treasury bills and bank deposits – funds that it could have used to finance agricultural activities. However, one can understand why the CACB to lend to the private sector; it is on the verge of bankruptcy and has around YR4 billions-worth of bad loans which the government have refused to buy.

Table 5.1: Sectoral share of commercial bank loans (%)

	Agriculture	Industry	Construction	Trade
1999	0.59	15.11	5.02	43.02
2000	2.87	17.16	4.80	40.87
2001	2.84	16.18	3.80	44.97
2002	1.35	20.72	6.82	48.04
2003	0.64	19.28	7.99	47.71

Source: CBY, Annual Report (various issues)

Note: Excludes classified loans and advances which account for around 22%.

If classified loans are included in the total, the share of agriculture drops to 1% in 2002 to 0.5% in 2003.

5.4 Conclusions and policy recommendations

Privatization and prudential regulation are important for revitalizing the financial sector. But they will not be enough to stimulate the rapid and equitable growth needed for poverty reduction – especially since the banking sector is largely urban-based and concentrates on trade finance.

This implies an important role for the government – which will need to provide directed and concessional credits for rural and agricultural activities and financial assistance to employment-intensive small and medium-sized enterprises (SMEs). The poor performance of the recently liquidated Yemen Industrial Bank might not provide much encouragement for such a policy. But this does not mean such operations are necessarily doomed to failure. Rather, the government should identify the sources of problems, address them and ensure that specialized credit facilities for priority sectors function properly. If it does not, the private sector, especially SMEs, will continue to find access to credit a major impediment.

The government also needs to have regulations requiring commercial banks to diversify their lending and extend their operations to rural areas. In this regard, Yemen can draw on the experience of India, where all banks, public and private, are required to lend at least 40% of their net credit to the 'priority sector' – or as a penalty must lend money to specified government agencies at a very low rate of interest. Studies by Banerjee and Duflo (2004) found that most banks complied with the regulations and contributed significantly to the expansion of agriculture and small-scale industries.

Alternatively, the CBY can consider carrot-and-stick measures. It could, for example, combine the Indian penalty-based system with incentive-based measures such as asset-based reserve requirements, support for pooling and underwriting small loans, and utilizing the discount window in support of employment-generating investments (see Pollin, 1993, 1995, 1998). As Epstein (2002)

Asset-based reserve requirements are an effective tool for creating incentives for banks to invest in socially productive assets. The CBY could, for example, use the findings of specialized investment funding agencies as the basis for a set of employment generating and commercially viable investments. Banks that invested in these activities would benefit from reserve requirements lower than for deposits invested in speculation or TBs or CDs.

The CBY can also create liquidity and risk-sharing institutions for loans to commercially viable and employment-generating small businesses which do not have adequate access to the credit market. In this regard, banks can take advantage of the experience of the Islamic Banks such as Mudaraba, Musharaka, Muzar'ah and Musaqat – emulating some of their deposit-taking and lending practices. The CBY can promote this by providing financial and administrative support for asset-backed securities – created by bundling loans to small businesses and other employment-intensive activities – and sell them as securities on the open market. Finally, the CBY can open a special discount window facility to offer credit, guarantees or discount facilities to institutions that are

on-lending to firms and co-operatives engaged in commercially viable employment-intensive activities. For these purposes the CBY can use some of its accumulated foreign exchange surplus.

Commercial banks are often reluctant to lend because of the lack of legal certainty and enforceability of contracts. Although there has been some progress in legal reforms, the performance of the commercial courts is still weak. They are also attracted away from private-sector lending by the high interest rates on Treasury Bills (TBs). In these circumstances, even the specialized Agricultural Bank finds it safer and more profitable to invest in TBs.

It is essential that the government establish specialized micro-finance institutions to cater to the needs of the poor who lack the assets that can serve as collateral. At present they have almost no access to commercial credit from the commercial banks and thus little chance of expanding their businesses beyond mere subsistence.

Box 5.1: Financing agricultural activities and SMEs in Vietnam

Vietnam, with a population of 82 million, is one of the fastest-growing developing economies, and making impressive advances in poverty reduction. Between 1993 and 2002 it reduced the poverty rate from 58% to 29%. In addition to job creation, the government used financial services for the poor as powerful instrument in poverty alleviation, particularly in the rural areas – providing loans to poor households through state-owned banks.

The financial sector reforms in the late 1980s led to the collapse of the traditional credit cooperatives and a public loss of faith in the financial system. This prompted the government to establish in 1993 a new People's Credit Funds (PCFs) to mobilize domestic savings, and then in 1995 the not-for-profit Vietnam Bank of the Poor (VBP) and in 1998, the Vietnam Bank for Agriculture and Rural Development (VBARD) – which became the major providers of financial services to low-income people.

VBARD utilises three different credit methodologies. First, it provides individual loans to rural farmers and entrepreneur, using a land-use certificate as collateral. Second, it lends to individuals through joint liability groups, requiring repayment of group loans before a new round of loans can be initiated. Third, for borrowers unable to provide collateral, VBARD channels loans through guarantee groups composed of leaders of mass organisations.

VBARD has adopted innovative ways to reach people. In 1998, it initiated a mobile-banking programme to extend credits and deposits to rural mass. Following a schedule matched to weekly market days, VBARD vehicles carry loan officers to process loan applications, disburse money, collect repayments and mobilize savings.

At the beginning, VBARD offered the poor lending rates 30% lower than the market rates, but under the mobile banking programme, it began to charge a rate that would recover the cost of running vehicles and other operational costs, and thus charged rural borrowers is 12% compared to 8.4% for urban borrowers. The loan repayment rate is 97%.

According to the Vietnam Living Standards Survey, in 2002, VBP was the leading micro credit provider to poor households in rural areas with 58% of the market, followed by VBARD with 24%. By 2003, VBARD, VBP and PCFs reached approximately 7 million households, among them 3 million rural households, representing over 90% of the outreach of rural financial services in Vietnam. The mobile banking programme has proved relatively cost effective by providing financial services to 315,000 poor households - about 6% of VBARD's clients.

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Box 5.2: Financing agricultural activities and SMEs in India

India has recognized that commercial banks often fail to reach the rural and small-scale sectors and to address this has several state-run initiatives including the Small Industries Development Bank of India (SIDBI), the State Financial Corporations (SFCs), the National Small Industries Development Corporation (NSIC) and the National Bank for Agriculture and Rural Development (NABARD).

The SIDBI, established in 1990, is the principal financing institution for the small scale sector. SFCs were set up to finance small and medium-scale units and operate in various states as Regional Development Banks. They provide financial assistance to industrial units by way of term loans, direct subscription to equity, guarantees etc. SFCs get into memoranda of understanding with the public sector banks to participate in joint lending in which both term loans and working capital are provided jointly.

NSIC was set up to finance the working capital of well managed small scale industries. For example, it provides finance for export development and assists SSIs in procuring industrial equipment.

NABARD was established in 1982, to act as the apex organisation concerning policy and planning operations in the field of credit for agriculture and other economic activities in rural areas in India.

The Reserve Bank of India has also taken steps to improve the credit flow to small-scale industries. The Government raised the investment limit for SSIs from Rs 600 thousand to Rs 30 million and for smaller units from Rs 500 thousand to Rs 2.5 million. The Reserve Bank of India (RBI) has issued instructions that out of the funds available to the SSI sector, 40% is to be given to units with investments in plant and machinery up to Rs 500,000; 20% for units with investment between Rs 500,000 and Rs 2.5 million and the remaining 40% for other units. Credit to SSIs is monitored periodically by the RBI, the Department of Small-Scale Industries & Agricultural Rural Industries, the National Advisory Committee of SIDBI, the State Level Bankers Committee and the District Level Coordination Committees of the Bank.

Sources: http://www.ifciltd.com/; http://www.nabard.org

Box 5.3: Directed credit schemes and financial-sector liberalization – findings from Ecuador

Evaluating directed credit programmes is a complex task. First, the distortions and inefficiencies they cause must be compared with the imperfections in the capital market. Second, government interventions in promoting the supply of long-term resources often have multiple objectives like redressing regional disparities or income inequalities. One recent study of Ecuador found that directed credit programmes accounted for approximately 50% of the total credit in the economy in 1984 and thus substantially compensated for the inability of the financial system to generate funds for investment. This explains why total credit in the economy rose during the 1970s and early 1980s, and peaked (reaching 23% of GDP) in 1983 despite financial constraints.

Beginning in 1984, as part of its financial sector liberalization programmes, Ecuador eliminated or scaled down directed credit programmes and removed administrative controls on interest rates. The study found that the supply of credit subsequently declined drastically with the contraction of government-provided loanable funds, falling to 9% of GDP in 1990.

Firm-level debt structure data show that, together with the decline in total credit, the share of long- term loans fell from 12% in the early 1980s to 8% in 1992. And for most years, the growth rate of real long-term credit was negative. Firm-level data also show that the percentage of directed credit was much higher for longer-term maturities prior to liberalization. This declined from 59.3% in 1985 to 35.9% in 1990. The percentage of directed short-term credit declined from 31.1% in 1985 to 3.3% in 1992. The decline in the access to long-term credit negatively affected firms' performance, especially in terms of productivity. In particular, the lack of access to long-term credit adversely affected firms' ability to acquire improved technology.

Reference:

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Chapter Six
Macroeconomic policy, inflation and growth: interlinkages between fiscal, monetary and exchange-rate policies

6.1 Introduction

In underdeveloped economies with very shallow financial markets, there are close interconnections between fiscal, monetary and exchange-rate policies. These connections are further strengthened in an oil economy like Yemen's where the major part of export earnings falls into the hands of the government.

Take for example exchange rate and fiscal policies. When the government devalues the exchange rate the immediate and most pronounced effect is to increase the domestic currency value of its oil-export revenues, but the ultimate effect of such devaluations critically depends on the fiscal stance of the government. Similarly, when the government spends oil revenues in the domestic economy, in addition to its direct effects, this also has important monetary implications, even when the overall budget is balanced.

Many of these effects depend on the economy's absorptive capacity. This is determined by the tightness of the labour market and the ability of the economy to adopt and assimilate new technologies that enhance the productivity of the domestic factors of production, as well as the pattern of utilization of oil revenues by the government. These interconnections are critically mediated and shaped by the country's monetary and exchange-rate regulations. This chapter therefore begins with a review of the monetary and exchange-rate regulations and reforms since the inception of the stabilization and adjustment programme.

6.2 Monetary policy: reforms and regulations

Historically, Yemen did not have an independent monetary policy. The money supply simply responded to fiscal needs and to developments in the balance of payments resulting from the fixed exchange-rate regime. This 'fiscal dominance' became more prominent immediately after the unification of the North and the South. In the absence of non-bank financing sources the costs of unification caused large budget deficits and a rapid expansion in the monetary base. During 1990-94, the correlation between the fiscal deficit and broad money was found to be 0.85 (IMF, 2001, p. 111).

Yemen's fiscal balance improved markedly after 1995. Between 1994 and 1997 the fiscal deficit, as a proportion of GDP, declined from over 16% to less than 2%. This was partly due to the IMF/World Bank adjustment programme but also to the increase in oil revenue. This eased pressure on monetary policy considerably.

In 2000 the GoY introduced a new law giving the central bank more independence to perform its supervisory and prudential regulation roles. The law also allows the central bank to resist the open-ended financing of fiscal deficit. The conduct of monetary policy has also been more flexible following the unification and floating of the exchange rate.

In 1995, in order to develop sources of non-inflationary financing of fiscal deficits, the G0Y introduced a market for treasury bills (TBs), and to channel resources to the TB market the central bank subsequently closed its term deposit facility for banks and pension funds. By the end of 1999, as the fiscal balance improved, fewer TBs were being issued, by which time their total value was YR119.8 billion. Some of the newer ones, however, were the result of converting public sector debts to the banking system into TBs. Most of these were used to meet additional bills required by banks for their own liquidity management through repurchase operations introduced in November 1999. By the end of 2003, the outstanding balance of TBs was YR185.2 billion. Although the central bank offers clearing and settlement facilities, secondary trading of TBs has not yet developed.

Due to the inadequacy of TBs in original and re-purchase operations, as well as the non-issuance of TBs, the CBY started to issues certificates of deposit (CDs). This was necessary to absorb surplus liquidity due to a record increase in foreign exchange reserves – to $3,568 million, an amount sufficient to cover 15 months of imports. By the end of 2001, the CBY had issues issued CDs world about YR 40 billion, 75% of which were acquired by banks, and 24% by retirement funds (CBY, Annual Report, 2001, p. 34). This amount increased to YR47 billion at the end of 2002. The CBY pays interest on these CDs: the minimum benchmark rate of interest plus one percentage point. This represents a heavy burden on the resources of CB: in 2002 interest payments were YR5 billion.

The central bank also streamlined the use of statutory reserves as an instrument of monetary policy. For example, in 1995 it unified the reserve requirement at 25% – without any interest for all Rial deposits. It subsequently lowered the reserve requirement in states and since December 1997 it has remained at 10%. In December 1996 for Rial deposits it introduced a 5% interest rate and in the following year raised this to the benchmark deposit rate. In December 1997 it lowered the reserve requirement on foreign currency (dollar) deposits from 25% to 15%, and in July 2000 to 10% – though raised it again to 15% in February 2003. The interest rate paid on reserves for dollar deposits is 1.5% at the end of each month on the lowest balance during that month. It treats dollar deposits differently, both in terms of statutory reserves and interest rates in order to stem the increasing dollarization of the economy and make Rial deposits more attractive. This has had some success: the rate of growth of dollar deposits fell from 23% in 2002 to 20% in 2003, and the share of dollar deposits in the total fell from 51% to 50%.

The dollarization of the economy limits the monetary authority's ability to influence economic activity is. As noted earlier, this also has implications for capital flight and reduces government income from seignorage. That domestic resident choose to hold a foreign currency indicates the economy's lack of financial depth.

One of the main instruments of monetary policy is the control of benchmark interest rates for deposits at the commercial banks – to which are linked to the interest rates paid on certificates of deposit. The central bank charges the commercial banks and public corporations interest rates on credits according to the loan interest rates prevail-

ing in the market. It charges the government two percentage points higher than the average interest rates on deposits with the banks.

In 1995, the CBY determined benchmark interest rates for various deposits as follows: three months, 20%; six months, 21%; nine months, 21.5%; one year and more, 22%; and savings deposits, 20%. In 1996, the rates were raised to 25% (on 3-months), 26% (on 6-months), 26.5% (on 9-months), 27% (on 1 year or more) and 25% (on savings deposits). In May 1997, the minimum saving deposits rate was lowered to 14% and other rates were freed, provided they did not fall below the benchmark rate. The lowest benchmark rate that the central bank fixed was 10% in February 1998, but it was raised to 15% in October 1998. It was further raised to 20% in June 1999. The benchmark rate on savings deposits was lowered to 13% in 2000 and it has remained at that level. The CBY uses the TB rates to fix the minimum rate for savings deposits.

Table 6.1 shows that the central bank has not changed the benchmark interest rates for the purpose of monetary policy since 2000. Although commercial banks have been free to set interest rates on term deposits since 1997, they chose to have them at the CBY-set minimum rate for savings deposits. However, the commercial banks maintained a wide spread between the deposit and lending rates, reflecting the lack of competition from within the banking sector and the non-existence of a non-bank financial system.

Table 6.1: Interest rates of commercial banks

End of Period	Interest	Interest on Deposit				
	on Loans	3 months	6 months	9 months	12 months	Savings
1997	15-21	11	11	11	11	11
1998	14-20	15	15	15	15	15
1999	22-28	18	18	18	18	18
2000	15-20	13	13	13	13	13
2001	15-20	13	13	13	13	13
2002	15-20	13	13	13	13	13
2003	15-21	13	13	13	13	13

Source: CBY Annual Report 2003, Appendix Table 6, p. 80.

6.3 Exchange rate regime and reforms

Other aspects of the reform programme with significant implications for the conduct of monetary policy, were related to the foreign exchange regime. In 1990, at the time of unification, Yemen had a dual exchange-rate regime – official and parallel. The official regime was comprised of multiple rates. A rate of $1 = YR4.5 was applied to government external transactions and covered crude oil and petroleum products, official receipts and payments and external debt service payments. A lower rate of $1 = YR12 was applied when allocating foreign exchange to the private sector for importing foodstuffs (wheat, flour and rice) and for special purposes such as officially approved medical treatment or study abroad. All other external transactions used the parallel market rate of $1 = YR13. The parallel market was operated by unregulated moneychangers.

On January 1, 1993, legislation was introduced concerning licensing, capital, and reporting requirements of moneychangers. Commercial banks operated in the foreign exchange market only as agents of the central bank and were permitted to buy and sell foreign exchange only for the accounts of their customers with the central bank. And for both residents and non-residents a long list of restrictions was applied for opening foreign-currency accounts, concerning the sources and uses of funds.

Yemen faced a serious external shock in the aftermath of the first Gulf war as thousands of Yemenis working in the Gulf states were sent home. With the fall in remittance income, it became very difficult for the central bank to defend the exchange rate which was rapidly depreciating in the parallel market. The central bank tried to arrest the depreciation of the parallel rate by introducing several measures but failed, and by January 1995, the dollar rose to YR160 in the parallel market. The central bank was forced to devalue the official rate from YR12 to YR50. The sharp rise in inflation and the attempt to defend the official rate resulted in a steep real appreciation of the Rial. The real effective rate (REER) appreciated from around 100 in 1991 to 650 by early 1995 which compounded the balance of payments crisis.

On July 1, 1996 Yemen finally unified and floated the exchange rate – which rose to YR 120. In December 1996, Yemen accepted the obligations under the IMF's Article VIII, Sections 2, 3 and 4, and since then has maintained an exchange rate system free of restrictions on both current and capital account transactions. The central bank was empowered to conduct exchange-rate policy, but to smooth volatility it limited its interventions in the foreign exchange market.

The stability of the exchange rate is seen as a mark of the success of the government's economic policies. Public officials are therefore reluctant to allow a larger depreciation of Rial. To stabilize the Rial exchange rate, the central bank uses interest rates, moral suasion and regular auctioning of foreign exchange, and since 2001 it has largely been successful in containing the rate of depreciation at 4% to 5% a year. Between 2002 and 2003, the Yemeni Rial depreciated by only about 4.5% from an average per dollar of YR179.6 to YR183.5. In order to keep depreciation within a narrow range, however, the central bank sold $520 million to banks and moneychangers in 2002 and $628 million in 2003. This poses serious questions about the coherence of the country's fiscal, monetary, and exchange-rate policies.

6.4 Monetary, fiscal and exchange-rate policies and the inflationary process

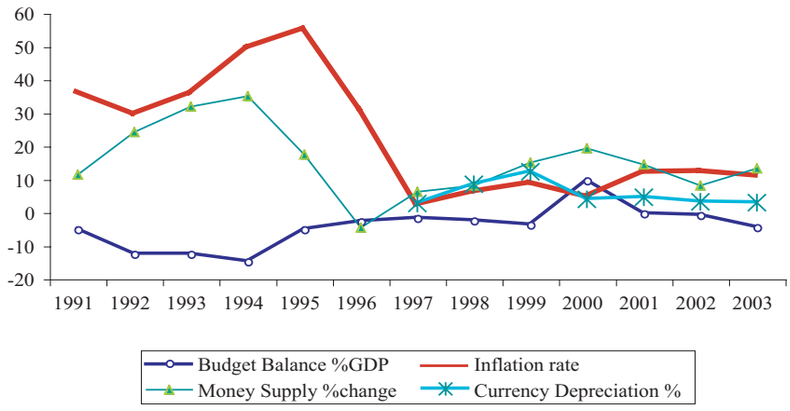
The financing of rising fiscal deficits through borrowing from the central bank immediately following unification saw the inflation rate accelerate from 33% in 1990 to 71% in 1994. After a relatively short period following the inception of the reform programme, the large balance-of-payments and budget deficits were reduced drastically and inflation was tamed – the rate falling to 2.2% in 1997.

The rapid decline in inflation was mainly a result of the improvement in the fiscal position and the tighter monetary policy – assisted by they rescheduling of Yemen's for-

eign debt, the resumption of foreign aid, and rising oil revenues. The GoY was able to reduce its budget deficits because of large increases in the domestic currency value of its oil revenues following the removal of implicit subsidies and the sharp devaluation of the official exchange rate early in the reform programme. It also restrained its spending: between 1994 and 1997 general government consumption expenditure fell by almost 20% in real terms, and it did not attain its pre-1999 level. In addition, during the same period there was a sharp reduction in the value of explicit price subsidies which further reduced government spending (between 1996 and 1999 explicit price subsidies fell from over 12% of GDP to about 2%).

Government spending was further restrained by increases in interest rates, which pushed the government's domestic interest obligations to almost 3% of GDP in 1999, as well as by its commitment to finance its deficits by issuing treasury bills. It was also increasingly able to use its oil revenues to reduce its debt to the banking sector. The restrained fiscal policy, combined with the credit crunch following interest-rate hikes, also reduced balance of payments deficits; in later years these turned to large surpluses which led to a rapid build up of foreign exchange reserves at the central bank. This has helped the central bank in supporting a relatively stable exchange rate, which under a liberalized trade regime, has been instrumental in taming inflation (see, Figure 6.1).

Figure 6.1: Budget balance, money-supply growth, currency depreciation and inflation, 1990-2003



Source: IMF, IFS, April 2005

The Yemeni economy is not prone to high inflationary spirals of the Latin American type – as is evident from the 1990-95 period, and particularly the stabilization period of 1995-99 when large consumer subsidies were removed and the official exchange rate was unified. This is because the economy is underdeveloped and because wage earners and agricultural producers and other economic agents lack economic power. Under these conditions the main preoccupation of macroeconomic policy making for poverty reduction should not be inflation but growth and employment creation.

Since 2000, the inflation rate has had moderate increases, averaging 12%. and for 2005 with the increase in fuel prices and associated price increases the rate exceeded 20%.

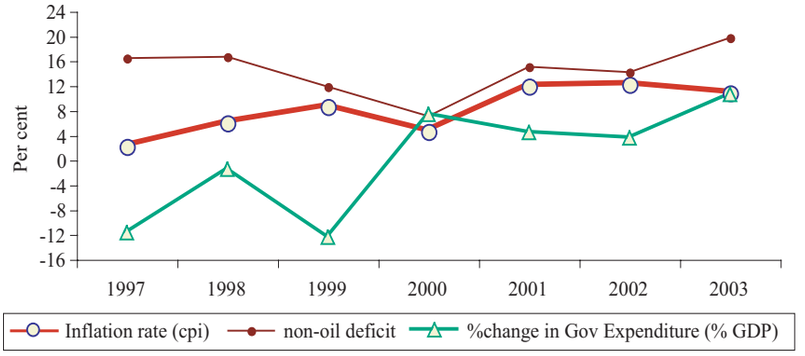
However, the central bank aims to bring inflation down to single digits. For this reason it is necessary to make a more careful study of the inflationary process in Yemen since 2000. A better understanding of the inflationary process in Yemen in this period, requires us to distinguish demand-side inflationary forces – factors resulting, for example, from monetary and fiscal expansion – from supply-side factors.

6.4.1 The inflationary impact of fiscal policy

Since Yemen is an oil economy, where a major share of government income from is foreign exchange revenues from oil exports, the fiscal stance of the government can play a key role in demand expansion. However, unlike other economies where there are concerns about the overall budget deficit, in Yemen the same expansionary results can be caused by the government's foreign-exchange earnings from the oil sector.

One measure of net injection of funds by the government into the domestic economy is the non-oil budget deficit, which is here defined as the budget deficit plus the foreign exchange component of the government's oil revenues.[33] The trends in non-oil budget deficits, inflation rate, and the growth of government expenditure as a percentage of GDP are shown in Figure 6.2.

Figure 6.2: Non-oil budget deficits, growth of government expenditure, percentage of GDP, and inflation, 1997-2003



Notes: Non-oil deficit is budget deficit minus foreign exchange component of government.
Source: IFS, IMF April 2005, IMF 2004.

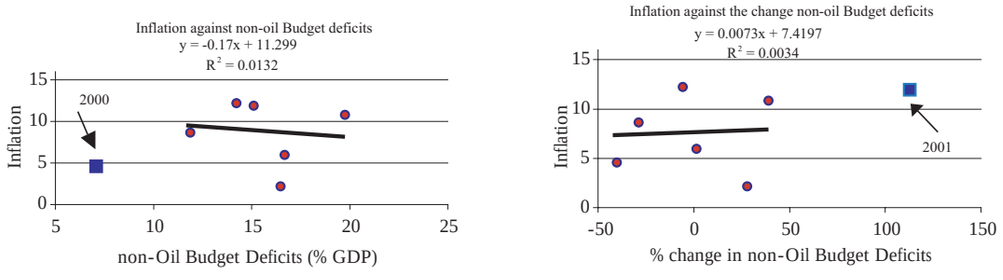
The increase in the inflation rate since 2000 appears to be associated with a more expansionary fiscal stance – as depicted by both the growth of government expenditure and the increase in non-oil budget deficits. For example during 1997-99 the rate of change in government expenditure, as a share of GDP, was on average about minus 8% a year, which increased to on average plus 6% during 2000-03. In the 2000-2001 period, non-oil deficits increased by the staggering figure of over 110%. This jerky

[33] The non-oil budget deficit as defined here is different from the broader concept of non-oil deficits which also included the domestic oil revenues of the government. This latter concept is more relevant for considering the long-term sustainability of budget deficits, while the definition used here is the relevant one for considering the expansionary impact of non-oil budget deficits.

behaviour is a reflection of the liquidity constraints imposed by the adjustment programme which were removed as soon as oil revenues started to increase in 2000. This is clearly inefficient and destabilizing. As we shall argue below, preventing such outcomes will require closer coordination between fiscal and monetary policies, and more accommodating financing from international aid agencies to allow long-term fiscal planning and to smooth non-oil revenue fluctuations.

The question that arises, however, is why such massive increases in non-oil budget deficits and government expenditures have not been more inflationary. There is, for example, only a weak relationship between the level and the rate of change in non-oil budget deficits and the rate of inflation. The correlation coefficient is only 0.25 for the level relationship, and 0.39 for the relationship between the change in non-oil deficits and inflation. In fact, once one omits extreme outlier years the correlations fall to zero (see, Figure 6.3). In other words, for a wide range of variations in the level and change it seems that inflation is independent of non-oil budget deficits.

Figure 6.3: Relationship between inflation and non-oil budget deficits



Source: IMF, IFS, April 2005

There are a number of explanations for this. The principal reason is that the government's oil revenues can also be used for a simultaneous expansion of aggregate supply through imports which help sterilize the potential monetary impact of non-oil budget deficits. Given that Yemen is a highly open economy, importing a large part of the domestic supplies of manufactures, raw materials, and even food, the availability of foreign exchange plays an important part in diffusing inflationary pressures in the domestic economy. This of course then raises the issue of imported inflation, and the significance of the exchange rate in the inflationary process, to which we return below.

The second important reason has been Yemen's very lax labour market – with high and increasing levels of unemployment and labour force growing by close to 4% a year. The Second Labour Force Survey of 1999 found an overall unemployment rate of 11.5%. The General Directorate of Human Development Planning, estimated the national rate at 14.7% in 1999 and predicted that it would rise beyond 2004. About one-third of the unemployed are long term – unemployed for more than 12 months. According to the World Bank (2002), the underemployment rate in 2002 was 25%. Unemployed workers emerged from all sectors of the economy, the highest being in construction (20%) followed by transport (9.6%), industry (8.8%), trade (8.4%) and agriculture (6.6%).

In an economy near to full employment, small changes in the net injection of funds via the non-oil budget deficits would inevitably lead to wage increases and generate inflationary pressures by increasing the demand for non-traded goods for which the supply is inelastic – sometimes referred to as the Dutch Disease – with an accompanying shift of resources from the traded to non-traded sectors. However, in Yemen, the lax labour market has accommodated a large net injection of funds via the government budget without overheating.

There are of course always specific skills shortages, and bottlenecks in the economy, which can lead to inflationary pressures, particularly in the face of sudden increases in non-oil budget deficits. Such sudden and extreme increases in non-oil budget deficits, as in 2001, should be avoided. However, mild bouts of inflation themselves play an important role in signalling the need for a shift of resources to the bottleneck areas, and hence are important preconditions of economic growth. If instead the overriding objective of government policy is to control inflation this can stifle growth by reducing the flexibility and effectiveness of the price system in reallocating resources between sectors and activities.

This also has important implications for the large inflow of funds under the MDG project proposals. These can easily be accommodated if they are supported by regular and firmly committed long-term flow of foreign grants, and are phased in along with the declining oil revenues in a manner that prevents extreme fluctuations. In addition, if such investments also contribute to improving productive capacities and removing bottlenecks, such as the shortages of skilled labour, through proper training and educational programmes, they can also help reduce inflationary pressures. This has not, however, happened in the past and reaping these advantages of external sources of finance will require complementary policy changes to which we turn below.

The rate of inflation does not however depend on the government's fiscal stance, or at least not in a straightforward manner. For example, as shown in Figure 4.2, during 1997-99, rapidly falling non-oil budget deficits and the rapid decline in the share of government expenditure in GDP, coincided with accelerating inflation. Other determinants also need to be taken into account, including the monetary and exchange rate policies of the central bank, and supply-side effects.

6.4.2 The monetary causes of inflation

To what extent is the recent rise in inflation a monetary phenomenon? This is an important question given the large swings in capital flows and transfers and the changes in oil revenues and non-oil budget deficits – for with only shallow financial markets the central bank may not be able to cope with such monetary shocks.

The rise in inflation in 1998 and 1999 coincided with the rise in money supply resulting from large government borrowing from the central bank. This can give the impression that inflation in Yemen is a monetary phenomenon, driven by government budget deficits.

The money supply rose sharply in 1998 and 1999 when oil revenues shrank dramatically and the government increased it borrowing from the central bank to 3% of GDP. This was reversed in 2000 when crude-oil prices rose, but nevertheless the money supply showed its sharpest increase in that year. Since 2000, the main cause of changes in money supply has been the accumulation of foreign assets (Figures 6.4 and 6.5).

Figure 6.4: Money supply and its components (million YRs)

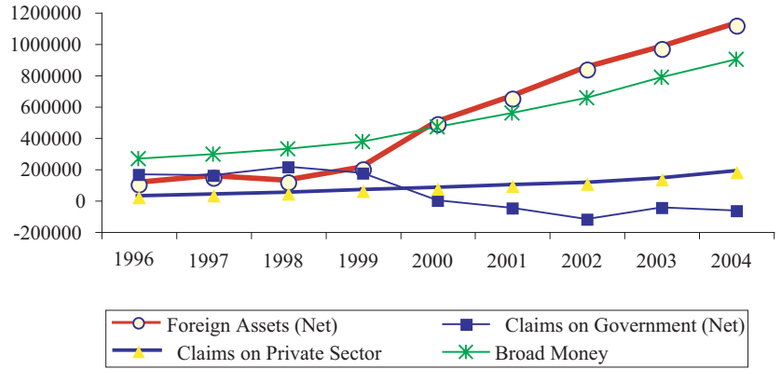
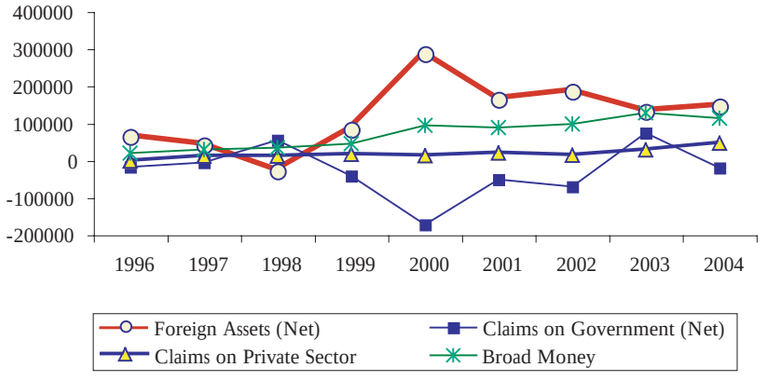


Figure 6.5: Change in money supply and its components (million YRs)



This shows Yemen's double vulnerability to oil-price fluctuations, which can not only be transmitted to the domestic economy via increased government expenditure, but can also have an expansionary impact through the monetary and credit mechanism. Despite the fact that a considerable part of increased oil revenues since 2000 have taken the form of accumulated net government deposits in the central bank – YR 200 billion – these sums have been by far surpassed by the accumulation of foreign reserves in the central bank, leading to fast increases in the money supply.

Therefore, to the extent that inflation is a monetary phenomenon, its source, at least in recent times, lies in developments in the balance of payments. The close association between money supply and net foreign assets shows that the central bank has not been fully successful in its attempt to sterilize the impact of foreign exchange reserves on money supply by buying and selling certificates of deposit. Its holding of foreign assets stood at YR924 billion (about $5 billion) which is about 14-15 months of imports – nearly 5 times what is generally regarded as safe. This level of foreign asset accumula-

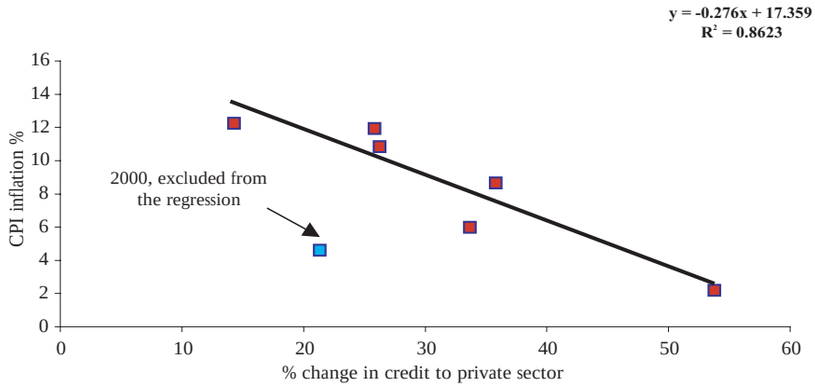
tion can not only cause inflation it also has high opportunity costs – since a dollar held as reserve is essentially a dollar of foregone investment.[34]

However, the transmission mechanisms between money-supply growth and the expansion of aggregate demand and inflation may not function as expected in the Yemeni economy. One reason is that the demand for money does not seem to be stable. The evidence suggests a volatile and declining velocity of money, with the implication that increases in money supply will not necessarily lead to a proportionate rise in the price level. Between 1994 and 2003, the velocity of money (GDP/M1) declined from 7.8 to 6.0 and for non-oil GDP fell from 7.3 to 4.1. A similar declining trend is also observable for M2 velocity. Additionally, both M1 and M2 velocities, in terms of total as well as non-oil GDP, displayed significant volatility in their year-to-year growth; over the period 1994-2003 the standard deviation of M1 velocity growth was 29. Thus in Yemen the strict quantity theory prediction based on a constant velocity linking money-supply growth to inflation does not appear to hold.

Secondly, having fixed the deposit rates at a high level, the central bank has effectively blunted the possible transmission mechanisms between monetary expansion and aggregate demand via interest rate changes.

Thirdly, as noted in the previous chapter, much of the credit afforded by the banking sector to the non-financial private sector is short-term credit and predominantly used for trading activities rather than investment. Under these circumstances the direction of causation can be from inflation to demand-for-money, with an accommodating money-supply process. The excess liquidity in the banking system, increasingly finding its way into deposits in central bank and overseas banks, makes this direction of causation more credible.

Figure 6.6: Relationship between inflation and the growth of bank credits to the private sector, 1997-2003



Notes: Including year 2000 in the regression reduces R2 to .49, but the relationship remains significant.

Source: Based on data from IFS, IMF, and April 2005.

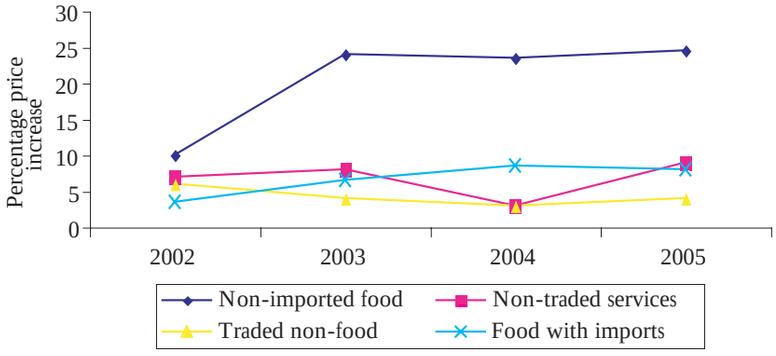
[34] According to Baker and Walentin (2001), the estimated opportunity cost of increased holdings of foreign exchange reserves for developing countries ranges between 1% and 2% of GDP. The opportunity cost depends on the rate of returns on investment in physical and human development, which is found to be higher in developing countries.

The view that inflation in recent years may not have been caused by the expansion of the money supply is further supported by the relationship between the growth of credits extended to the private sector by commercial banks and the rate of inflation, shown in Figure 6.6. There seems to be a robust and negative relationship between the rate of growth of credit extended to the private sector and the rate of inflation. This relationship is more consistent with inflation emanating from supply shocks rather than from the expansionary impact of monetary policy. For example, shocks in the agricultural sector can lead to inflation and at the same time reduce the supply of credit as a result of higher perceived credit risks by the banks. Similarly, adverse supply shocks emanating from oil-price fluctuations, under the current foreign exchange regime in Yemen can result in capital flight and exchange rate depreciation leading to the building up of inflationary pressures by increasing import prices. Increased uncertainty in this case can again cause the banks to curtail the growth of credit extended to the private sector. In both these examples, the banks may prefer to invest their excess liquidity in central bank CDs, treasury bills, or deposits abroad, which is more or less what has been happening in recent years. This indicates the need for greater attention to supply-side factors.

6.4.3 Supply-side factors

Inflation in Yemen is also caused by supply-side factors, which may not be related to money-supply growth. These include the upward adjustment of administered prices. For example, according to the estimates of the IMF (2001, p. 114), in 1996 the CPI inflation would have been much lower than 33% had not the diesel price, in order to repair the budget, been raised by 100%, the wheat and flour prices by 150% and the electricity tariff by 161%. The IMF report notes that administrative price increases contributed to inflation – and inflation excluding administered price increases was about 7-15% lower than overall CPI (IMF, 2001, p. 114). It also notes, "Other important factors driving inflation were fluctuations in the prices of vegetables and qat. Both products exhibit strong seasonality, with prices affected by rain/drought and seasonal demand (around holidays for qat) and on trend these prices have been rising faster than the overall index." (IMF, 2001, p. 116). According to the IMF estimates, CPI inflation has always been lower by at least 10%-25% when both products are excluded from the measure (IMF, 2001, p. 116).

Figure 6.7: Inflation rates in the food and non-food components of the CPI, 2002-05



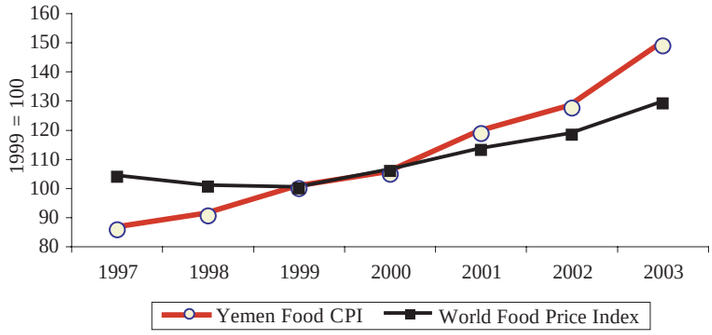
Hence, because of the importance of food items (vegetables, fruit and meat) and qat, which have negligible import components and are largely dependent on weather conditions, a significant element of inflation in Yemen can be supply determined or of a 'cost-push' type. Dependence on weather conditions is less marked for cereals, where 80% of demand is met by imports. This is clearly shown in Figure 6.7, which depicts the movements of the food and non-food components of the CPI. The figure highlights a number of important facts. Firstly, inflation in the imported food and non-food components of the CPI since 2002 has been relatively stable and more or less in line with the rate of depreciation of the currency, thus confirming the argument made earlier that due to lax labour market conditions inflation has not been predominantly due to wage increases. The second observation is that non-imported food price inflation appears to be accelerating. Since food is the dominant component of the CPI, the main driving force of inflation in recent years has been rising prices of mostly domestically produced food.

Both the upward trend in food-price inflation and its volatility may appear paradoxical. Since the end of food subsidies in 1999 and with an apparently liberalized trade regime and the availability of foreign exchange one would expect long-term trends in food prices to be closely linked to international food prices rather than to the vicissitudes of domestic food production. A disaggregated view clarifies the situation, as the inflation rate for food items, where imports are substantial, notably cereals, has been much lower and within the range of inflation for non-traded services, while the inflation rates for largely locally produced agricultural products, notably vegetables, fruit, meats and qat, have been higher than the overall inflation rate.

The relationship between domestic food price index and the world food price index (converted to Rials) is shown in Figure 4.8. As expected, during the 1997-99 period domestic food prices increased much faster than international prices, as this was a period during which food-price subsidies were being removed. The 1999-2000 period witnessed a remarkable co-movement between the two indices. However, since 2000 food prices have been growing faster than international prices measured in the same currency. This divergence appears to be due largely to faster price increases for items where imports are not significant. As the country did not face foreign exchange constraints, the prices of cereals only rose at the same rate as international prices plus the factor by which the Rial was devalued compared to the US dollar.

Figure 6.8 shows a composite international food price which reflects the variations in both the international food prices in dollar terms and the depreciation of the Rial. Considering that imports in Yemen are over 35% of GDP, currency depreciations can have an important inflationary impact. Under the current exchange rate regime in Yemen supply shocks emanating from oil price fluctuations and expectations regarding the future sustainability of oil exports can exert important influences on the exchange rate, thus creating another potential supply-side inflationary pressure point.

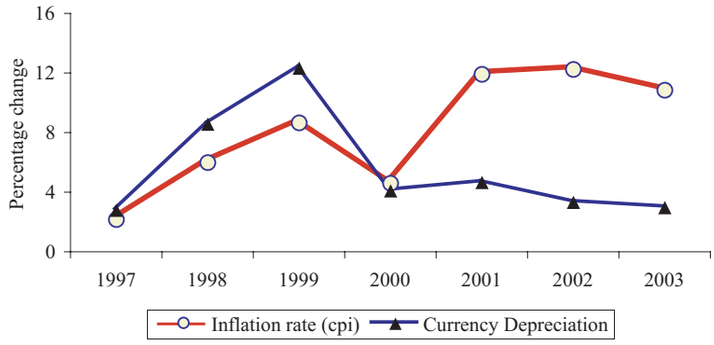
Figure 6.8: World and Yemeni food price indices, 1997-2003 (in YRs)



Notes: Both indices are Yemeni Rials.

Sources: IFS, IMF, April 2005 for exchange rate and the World Index, and IMF, 2004 for Yemen CPI.

Figure 6.9: Currency depreciation and inflation, 1997-2003



Sources: ibid

Figure 6.9 shows the relationship between currency depreciation and inflation. Two distinct sub-periods can be distinguished. During the first, 1977-2000, there is a close association between currency depreciation and inflation. In this period the central bank's interventions in the currency market were limited.[35] Following the negative oil price shocks of 1998-99, the rate of depreciation of the Rial increased sharply, but following the rapid increase in oil prices from the last quarter of 1999, it declined to 4% in 2000. These fluctuations indicate Yemen's vulnerability to oil-price shocks under a

[35] The increase in benchmark interest rates from 11 per cent in 1997 to 18 per cent in 1999 may have been an attempt by the central bank to reign in exchange rate depreciations. This policy, however, had a dramatic and negative effect on private investment without reducing the pressure on the exchange rate and inflation. It was not before the oil price increases of late 1999 and 2000 that exchange rate depreciation was moderated.

free-floating exchange rate regime. As discussed above, price inflation during the 1997-99 period was driven mainly by the removal of subsidies and the severe drought in 1999. The sharp decline in international food prices in this period helped to dampen inflationary pressures.[36] With the end of the drought in 2000, and the slowdown in the rate of depreciation of the Rial, the inflation rate fell.

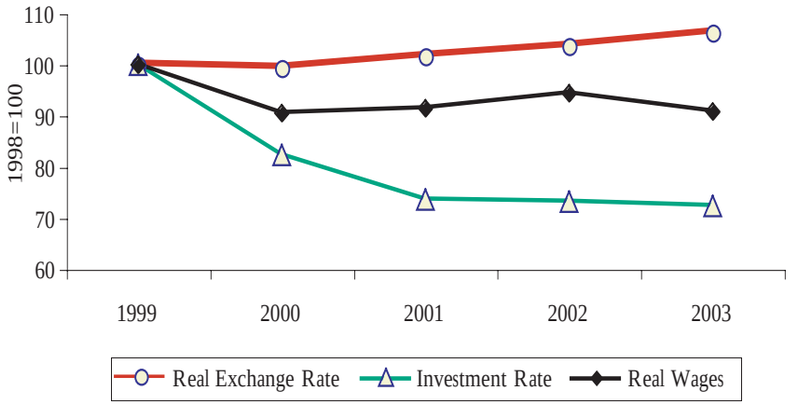
During the second sub-period, since 2000, there have been some dramatic changes. The central bank has managed to keep the rate of currency depreciation at around 4% to 5% a year, while annual inflation has hovered at around 10% – leading to a real appreciation of the exchange rate. This may convey the impression that the economy has been suffering from the Dutch Disease, but this is not supported by the evidence, for it does not tally with the rising unemployment and underemployment of labour in this period. Though data on private-sector wages are not available, the trends in public-sector real wages and salaries and investment trends shown in Figure 6.10 do not support the booming-sector syndrome.[37] Furthermore, the revaluation of the real exchange rate in this period was not the result of the free interplay of market forces but due to heavy interventions by the central bank in the currency markets, with substantial foreign-exchange reserve losses. The explanation for the divergent paths of inflation and currency depreciation in this period is more nuanced than the Dutch Disease story would have it.

As noted above, the main source of price inflation in the economy since 2000 has been accelerating inflation in food prices, excluding cereals. The increase in cereals prices was in line with the increase in international prices, where wheat prices increased by over 30% between 2000 and 2003 in major international markets. Given that about 80% of cereals consumption in Yemen is imported, this was bound to dominate domestic price inflation. The price of imported wheat in the main cities such as Sana'a and Aden increased by over 40% over this period, which is in line with what can be expected given the depreciation of around 10% in the value of the Rial. With the end of food price subsidies, domestic prices of those food items where imports are significant, notably cereals, have become closely linked to the international prices and the Rial's exchange rate movements. But the really high rates of inflation affect commodities where the main source of supply is domestic production, thus reflecting the importance of supply constraints resulting from low investment in the agricultural sector and the continued sensitivity of the sector to climatic conditions.

[36] Between 1996 and 2000 the international food price index (denominated in dollars) fell by about 28 per cent). Average prices of wheat and sugar, the main food import items in Yemen, fell by 42% and 32% respectively in the international market during the same period.

[37] There is plenty of other evidence against the Dutch Disease hypothesis. For example, the rate of increase in the GDP deflator in the construction sector, which has a high domestic wage component, was only 14% between 2000 and 2003. Similarly, the increase in the price index of 'services for maintenance and repairs' component of CPI increased by no more than 12% over the same period. These compare with much higher price increases for the traded goods sectors.

Figure 6.10: Real exchange rate, real wages, and investment rate, 1999-2003

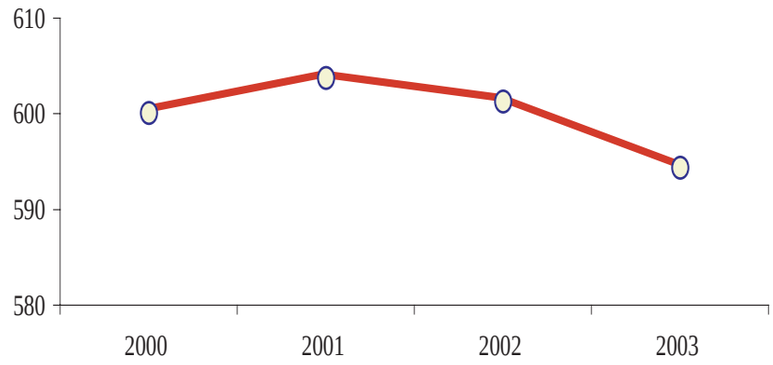


Notes: Real Exchange rate is the currency rate deflated by CPI. Increase means appreciation. Real wages refer to average wage and salary rates of public sector employees.
Source: IFS, IMF, April 2005, and CSO.

Under these circumstances, the apparent overvaluation of the currency vis-à-vis potentially exportable goods cannot be easily remedied by a devaluation of the nominal exchange rate. In a country with generalized poverty large depreciations of the nominal exchange rate, in a situation of rising international food prices, would have become intolerable. The root of this problem is the extremely low levels of labour productivity in both the food producing sectors and the potentially exportable sectors. As a consequence, at even low wages bordering on poverty wages, the tradable goods sectors remain uncompetitive because of the low productivity of labour – of course with the exception of natural resource-based export enclaves such as oil. In other words, under the current conditions of extremely low labour productivity and rising international food prices, there may be no real exchange rate that can maintain the competitiveness of the non-oil, traded goods sectors without pushing real wages way below poverty wages and intensifying mass poverty. As can be seen from Figure 6.11, the trends in non-oil value-added per person of working age indicate that in terms of productivity growth the economy is moving in the right direction.

Since 2000 this seems to have posed a dilemma for policy makers who have been trying to avoid a gradual overvaluation of the currency while keeping inflation at bay. The CBY's half-hearted solution appears to have been to keep the rate of depreciation of Rial at moderate levels of about 4% to 5% a year. This is a costly policy. It does not serve the cause of low inflation – given supply constraint induced by substantial price rises for food items where imports are insignificant, such as vegetables and fruits. Nor does it address the issue of the gradual overvaluation of the exchange rate. In addition it has cost valuable foreign exchange reserves. As noted above, during the 2002-03 period alone the CBY sold over $1.1 billion to banks and moneychangers in trying to support the exchange rate. There are a number of more efficient and sensible solutions to this policy dilemma in the short to medium term, though the long-term solution is certainly to lift investment and productivity growth.

Figure 6.11: Non-oil GDP per person of working-age, 1998-2003, $ constant 2000



Notes: Non-oil GDP measures the sum of agriculture, manufacturing and services only. Working age only. Working age population is population aged 15 to 65
Source: WDI, World Bank 2005, and IFS, IMF April 2005.

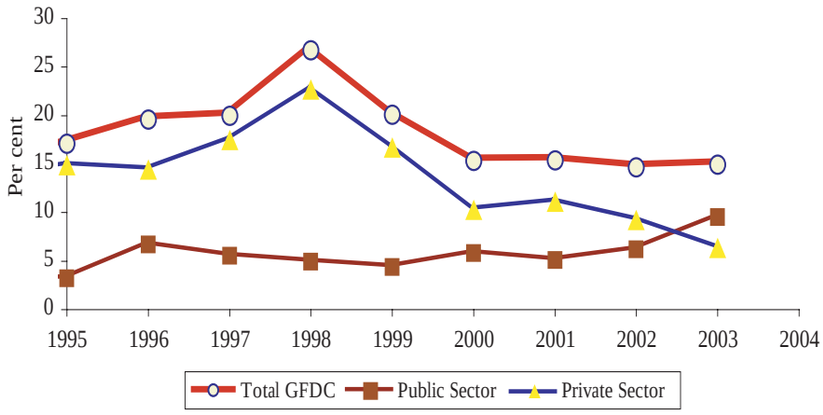
One solution in the short term is for the government to use part of its oil windfalls to build up buffer stocks of imported food and essential items to stabilize prices. Food subsidies of this type, which should be kept to the narrow range of food grains mainly consumed by the workers, can free the central bank to pursue more flexible exchange rate management without being concerned about the inflationary effects of devaluations on the poor.

Another solution would be to introduce food subsidies in the form of food stamps which can shield the poor from price increases. The food-stamp solution is administratively more cumbersome, but it has the advantage over the price-stabilization solution in that it prevents domestic relative prices from diverging from international prices. On the other hand the food-stamp solution does not solve the problem of the price instability facing domestic producers, which can be particularly damaging to investment in the agricultural sector. These short- to medium-term measures, however, cannot be relied upon. The only lasting solution is capital accumulation and improved productivity of land and labour.

6.4.4 Macroeconomic policy, savings, investment and pro-poor growth

Under these circumstances using monetary policy for price stability through demand management will result in a larger decline in investment and employment and hence will worsen poverty. This is reflected in interest rates which are higher in Yemen than in most Arab countries even when inflation rates are taken into account, though the real rates of interest were reduced substantially in 2005 in the face of rising inflation. This has certainly adversely affected businesses. Private investment plummeted from its peak of over 22% of gross disposable income in 1998 to below 7% in 2000 following a 7 percentage point rise in the lending rate during the 1998-99 period (Figure 6.12). Of particular concern is that private investment rates have continued their downward trend and if investment by foreign oil companies is excluded the decline would be even sharper.

Figure 6.12: Private and public gross fixed capital formation as a share of national disposable income, 1995-2003



Notes: Private investment includes foreign oil company investment.
Sources: Based on IFS, IMF, April 2005, and IMF 2004.

The higher interest rates are the result of tighter monetary policy as part of the adjustment package which, amongst other things, is aimed at reducing inflation. While inflation certainly needed to be brought down, insisting on reducing it to less than the current moderate levels for imported food and non-food inflation is damaging for the real sectors of the economy, causing a stabilization trap. Though food inflation, which is harmful to the poor, certainly needs to be brought down, monetary policy aimed at containing demand is not the appropriate policy. To the contrary, the way forward in the long run is greater investment aimed at breaking the food-supply bottleneck. The World Bank (2002, p 37) also reports that one factor contributing to the sluggish growth of the manufacturing sector during the period 1995-2000 was the tight growth of money and credit associated with the stabilization programme.

The employment impact of the stabilization programme has important implications for poverty reduction. The National Poverty Survey (CSO, 1999) shows that employment is a major source of the poor's income, nationally accounting for 35% of the total (see, Table 6.2). The figure is 47% in urban and 31% in rural areas. For the middle class, employment generates nearly 30% of their income as opposed to only 22% for the rich. For the middle class in the rural areas, the share of employment income is 43%. From the point of view of poverty reduction the stabilization programme should strike a balance between price and output stabilization. As noted earlier, attempts to attain price stability through a high interest-rate policy has adversely affected private investment. Those who lost jobs during the phase of stabilization may have joined the ranks of the long-term unemployed and increased structural poverty.

Monetary policy designed to handle overall inflation is not the best way of dealing with inflation of specific items that are used by the poor. One may argue that if overall inflation falls even when prices of some items in the CPI rise, people should be better off, since they can save on those items whose prices are falling. However, the net effect of this depends on the relative shares of these items in total expenditure, and their price elasticity.

When the poor are spending nearly 64% of their budget on food, for which price elasticity is low they are likely to be net losers even when prices of other items fall. The poor have thus been negatively affected in two ways; first due to rising food prices; and secondly as a result of the decline in investment and employment opportunities.

Table 6.2: Sources of income of the poor, the middle class and the rich (%)

	URBAN				RURAL				NATIONAL			
Income source		**Middle**				**Middle**				**Middle**		
of the household	**Poor**	**Class**	**Rich**	**Total**	**Poor**	**Class**	**Rich**	**Total**	**Poor**	**Class**	**Rich**	**Total**
Employment	47	43	32	37	31	23	13	21	35	29	22	27
Private Business	32	33	42	38	35	39	43	40	34	37	43	39
Interests of Bank Deposits	0	2	2	2	0	0	0	0	0	1	1	1
Remittances	13	10	10	11	11	10	14	11	11	10	12	11
Other Sources	8	14	16	15	24	28	30	28	20	23	23	23
Total	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

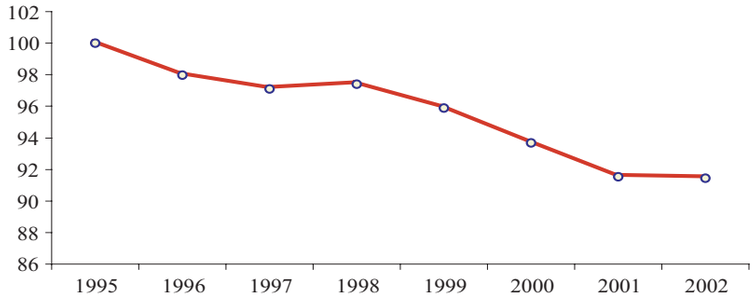
Notes: Poor = bottom 40%, Middle Class = middle 40%, Rich = top 20%

Source: National Poverty Survey, CSO 1999

This is consistent with estimates which suggest that the headcount measure of extreme poverty, defined as those with inadequate food, increased from 17% to 27% between 2001 and 2004 (A-Shami 2004). Another indicator is the trend in calorie intake per adult shown in Figure 6.13 which, combined with the likely deterioration in income distribution over this period, suggests increases in the extent and intensity of income poverty since 1998.

Another mechanism through which high interest rates were meant to stimulate the economy was through generating higher savings rates. Theoretically, the effect of higher interest rates on savings is ambiguous, as the income effect of higher interest income can be neutralized by its substitution effect, though in countries with generalized poverty the income effect is likely to be dominant. There is also little empirical evidence of a positive relationship between interest rates and savings. In the case of Yemen too, clearly the high benchmark savings interest rate – a key monetary policy instrument – has failed to encourage households to save more.

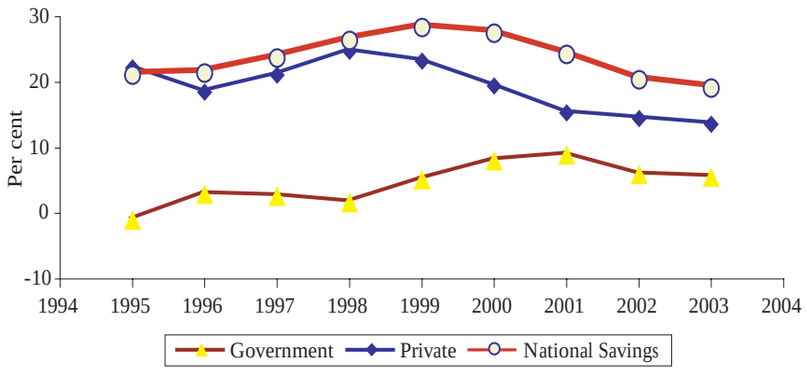
Figure 6.13: Calorie intake per adult (15+ age group, 1995 = 100)



Sources: FAOSTAT, FAO 2005, and WDI, World Bank 2005.

As shown in Figure 6.14, though there has been a greater savings effort by the government since 1995, there was a precipitous decline in private savings after 1999. Care must, however, be taken when interpreting the private savings rates shown in Figure 6.14, as these are measured as the residual between government savings and total national savings, with the latter itself measured as a residual in national accounts. The overall trends however are unmistakable.

Figure 6.14: Government, private, and national savings as a percentage of national disposable income, 1995-2003



Notes: National disposable income includes current transfers (mainly remittance income) from abroad. The data are two-year moving averages.

Sources: Based on IMF, IFS April 2005 and IMF 2004.

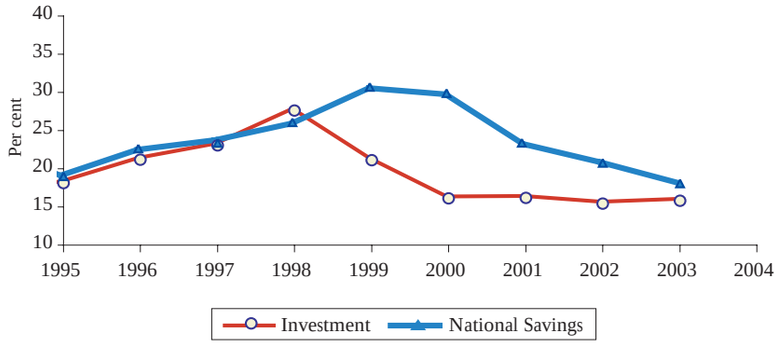
The decline in the savings rate in a moderately growing economy highlights the dominance of current income and liquidity constraint in consumption decisions, not uncommon in countries suffering from mass or generalized poverty. That is, any increase in current income goes to consumption and debt repayments. This results in a higher marginal propensity to consume and makes consumption expenditure pro-cyclical. As a result, the effects of any exogenous shock on employment and poverty are exacerbated in the absence of active demand management policies.

The decline in the savings rates, however, has not been the cause of declining investment in Yemen. The rate of decline in domestic investment has by far outpaced the fall in national savings rates since 1999. As shown in Figure 6.15, the precipitous decline in the rate of investment since 1999 has resulted in rapid build up of net national savings surpluses. As noted earlier, this has partly taken the form of a huge build up of foreign exchange reserves in the central bank, and increasingly the form of investments by commercial banks abroad.

Net foreign assets of commercial banks in 2002-03 stood at around 8 per cent of GDP. Figure 6.15 provides a part of the answer to the question posed in Chapter 1 regarding the utilization of the domestic resources available for development and investment (DRDI) during the post economic reform period. Since 1998, a large part of the DRDI has been used to finance investments in other countries. It is rather curious that

a country where unemployment is rising, underemployment of labour is prevalent, and the number of the poor is increasing, has been financing capital accumulation in other countries.

Figure 6.15: Savings and investment as a percentage of national disposable income, 1995-2003



National disposable income includes current transfers (mainly remittance income) from abroad
Source: IFS, April 2005, IMF and IMF 2004

To sum up, though the stabilization programme has been successful in bringing down inflation, particularly in imported food and non-food items, it seems that lower inflation has not yielded dividends of higher savings and investment to propel the economy into a phase of rapid growth. As a result, the unemployment rate is projected to increase from 11.5% in 1999 to about 17 % in 2006. Among the young (15 to 24 years old) more than 29% are unemployed (ILO, 2004, p. 34).

Among the factors that inhibit the private sector and employment creation are high interest rates or cost of finance. Thus, insisting on reducing non-food inflation further will be counter-productive. Under these circumstances monetary policy should support well-coordinated specialized credit programmes to enhance investment in productivity- and employment-enhancing growth that would have a significant impact on poverty reduction. Given that the main component of inflation in the CPI is food-price inflation, largely resulting from domestic supply constraints, this type of investment-enhancing credit expansion, if well directed, can help reduce inflationary pressures.

However, under the current foreign exchange regime, the CBY may feel constrained in lowering the interest rates and facilitating the expansion of credit to private investors for fear of capital flight and exchange-rate instability. This assessment may have been reinforced by the reality of net capital flows. Therefore, capital-account opening seems to have removed the monetary authority's flexibility to pursue an independent monetary policy that a flexible exchange rate regime was supposed to provide. At the same time, capital account opening has failed to attract large quantities of portfolio investment, despite Yemen having higher interest rates than other Arab countries.

Box 6.1: Financial sector reform and financial crisis

Many developing countries have experienced financial crises following the introduction of financial reform programmes in the mid-1970s (see World Bank, 1989; Capiro and Kliengebiel, 1996 and Lindgren *et al*,1996). Thus, there seems to have been a close relationship between financial liberalization and financial crisis. Financial liberalization reform may increase the degree of fragility of financial and non-financial firms and set the stage for a financial crisis through the following channels:

- Financial liberalization reform may lead to excessive risk-taking by financial institutions by increasing freedom of entry into the financial sector and freedom to bid for funds through both interest rates and new financial instruments – unless such a freedom is tempered with regulation and prudential supervision. The lack of effective prudential regulation and supervision is often one major cause of financial crisis.
- An implicit or explicit guarantee of government bailout of deposits and bankers may also encourage unsound lending patterns and trigger excessive risk-taking by financial institutions following financial deregulation.
- The liberalized structure may lead to a concentration of market power through interlocking ownership and lending patterns. Such a financial structure may create market failures because of moral hazard, adverse risk selection and oligopolistic pricing.
- Interest rate deregulation results in an excessive rise in interest rates, especially when euphoric expectations generate an artificial demand for credit. This may have a number of adverse effects. First, it raises the prospect of market failure as high interest rates attract risky borrowers. Second, it may affect banks and other financial institutions if they have large exposures to long-term assets at fixed interest rates funded by short-term liabilities. Third, it may lead to distress borrowing by firms with high debt-equity ratios.
- If interest rates above certain levels are considered risky due to adverse selection then financial institutions may want hold interest rates down and ration credit. Credit rationing can cause bankruptcies of firms which in turn may affect banks.
- The monetary authority may either lack adequate and effective instruments of monetary control to influence the interest rates or follow a hands-off policy in the belief that domestic interest rates will automatically converge to foreign interest rates through arbitrage.
- If the capital account is liberalized at the same time, the high domestic interest rates may attract short-term foreign capital which increases the risk of sudden reverse flows and financial crisis.
- An open economy with a fixed exchange rate system and a liberalized capital account faces the 'impossible trinity'. That is, it cannot simultaneously control money supply, maintain a fixed exchange rate and at the same time encourage capital flows. It generates expectations of devaluation and hence speculative attacks on domestic currency.

Under these circumstances policy advisors may be tempted to advocate further increases in interest rates in order to stem the tide of capital flight and reduce pressure on the exchange rate. For a number of reasons, however, this type of policy will be damaging and is unlikely to reduce pressures on the exchange rate and turn the tide of capital flights. The experience of Yemen indicates that such interest rate increases are likely to have a more vigorous effect in reducing investment, and business activity in gen-

eral, than in attracting portfolio investment from abroad. Furthermore, under the current projections about the exhaustion of oil reserves, adverse expectations regarding the sustainability of the exchange rate at its current levels are too strong to be neutralized by moderate interest-rate increases. When high interest rates are sustained not on the basis of return on investment in real assets, but rather on the basis of lending to the government or buying central bank CDs or investing abroad, this type of policy in the face of declining oil revenues will not be credible.

The central bank has so far wisely resisted further interest-rate hikes, but its attempts to restrain exchange-rate devaluations under the current foreign exchange regime have been at the expense of rapidly losing valuable foreign exchange reserves to speculators. Under these circumstances the appropriate option is to impose restrictions on capital-account convertibility and particularly to restrict commercial banks from investing abroad. This is an important requirement for improving the effectiveness of fiscal and monetary policies in bringing about high investment and growth in the domestic economy, and at the same time reducing cost-push inflationary pressure. Arguments are also presented in Annex IV, with strong theoretical and historical evidence against capital-account liberalization.

6.5 Policy recommendations

Current fiscal, monetary and exchange-rate policies are in urgent need of rethinking and reform. The urgency arises from the secular decline in private-sector savings and investment, rising unemployment and underemployment of labour, and stagnant labour productivity. In recent years these trends, combined with high rates of food-price inflation have increased the number of the poor and the intensity of income poverty.

Low investment rates reflect inadequate economic, and particularly macro-economic, policies, for it is clear that the economy could absorb large amounts of new investment without causing runaway inflation. The high interest-rate policy of the central bank has failed to stimulate savings and has contributed to the dramatic decline in private investment.

Instead, a two-pronged approach is needed. In the short run the government should adopt a food price stabilization programme to temporarily de-link food price inflation from international prices. This will free the central bank to adopt a more flexible approach to exchange-rate management.

The long run solution, however, is to adopt measures to increase investment in physical and human capital, enhance productive capacities and raise the productivity of labour in the economy, and particularly in the agricultural sector. For this purpose the central bank should use its foreign-exchange reserves to set up specialized investment funding agencies to help increase private-sector investment in productive activities. The boost in private investment and employment, and improved productivity would also help reduce income poverty.

However, under the current foreign-exchange regime, the central bank may feel constrained in lowering the interest rates and facilitating expansion of credit to private investors for fear of capital flights and exchange rate instability. Under these circumstances the appropriate option is to impose restrictions on capital-account convertibility and particularly to restrict commercial banks from investing abroad.

It will also be important for both for economic stability and growth to ensure coordination between fiscal and monetary policies. Thus the government should take a stable and long-term fiscal stand that is based on the five year plans and is not dominated by the fluctuations in oil revenues. This will entail a more accommodating monetary policy that does not exacerbate liquidity constraints when the oil prices are low. This also requires a similar long-term perspective on the part of the international donor agencies.

Most important of all, the government will need to implement the fiscal reforms discussed in chapter 2, and make a greater effort to encourage savings and investment. The recent acceleration in the rate of inflation in the aftermath of oil price hikes since 1995 indicates that the problem of a lack of coordination between fiscal and monetary policies has yet to be resolved.

Chapter Seven
Strengthening the employment nexus between growth and poverty reduction

7.1 Introduction

Over the period 1995 to 2003 the rate of economic growth was moderate – about 5% per year (Roberts 2004). But because of rapid population growth the rate of growth of income per person has been much lower – 1.5%. Much of this growth has been powered by the increase in oil production, which now accounts for about one-third of GDP, though the growth has not been broad-based.

One result of narrowly-based growth is the lack of employment creation. Yemen is caught in a vice – between slow economic growth and rapid growth in the population and especially of the labour force. New workers find few opportunities for remunerative employment so remain unemployed or displace older workers. And if they cannot find formal-sector jobs, public or private, they opt for low paying and irregular informal-sector employment. Compounding the problem is the fact that to counteract declines in real household income many more women have been joining the labour force.

In the past, the public sector has accounted for much formal-sector employment but can no longer provide enough decent-paying jobs for a rapidly growing labour force. Many more jobs will thus need to be created in the private sector. Nevertheless the public sector still has to finance the public investment to provide essential social and economic services, without which the private sector would languish. The public sector can also help by inducing the banking sector to provide more loans to stimulate productive private investment.

While Yemen is similar in many ways to other countries in the region, it also has distinct problems. These stem from its low level of development. Yemen is a least developed country, with very low levels of income and human development. Its economy is also undiversified and under-developed – heavily dependent on agriculture, and on oil with a very small manufacturing sector. Yemen must therefore diversify its economy and find new sources of growth, not only within manufacturing but also within agriculture and services. The economy will only be able to generate widespread employment at decent wages if it can increase output in sectors with higher labour productivity.

7.2 Trends in the labour force

Yemen's rapid rate of population growth is exerting tremendous pressure on the labour market. At about 3.5% the rate of growth is one of the highest in the world. Between 1990 and 2000 the population increased from 12.8 to 18.4 million and the age group 15 years of age or younger now accounts for almost half of the population. The Yemeni population will remain disproportionately young for a long time: by 2020 the median age is projected to increase only to 16.6 years.

By 2000 the ratio of dependants to workers was approaching an unsustainably high level – five to one – which intensifies the need for each person of working age to secure decent-paying employment.

The employment problem has been compounded by slackening demand for Yemeni workers in other countries in the region: partly as a result of slower economic growth in these countries, especially in construction; and partly due to competition either from nationals or from cheaper workers from South Asia. Nevertheless, the number of Yemenis working abroad remains high – estimated at over one million workers in 1998 – around about one-quarter of the total Yemeni labour force. They also send substantial remittances, which although falling since the early 1990s, still add up to almost one-fifth of GDP and are essential to the livelihoods of many households – as well as for the country's current-account balance. The fact that these workers have to work abroad is a further indication of the lack of opportunities at home.

Although the economy grew by 5% per annum between 1995 and 2003, labour force participation rates and employment stagnated. If the labour force participation is defined for the 1999 Labour Force Survey in the same way that it is defined for the 1994 Population Census, the rate declines from 45.8% to 44.3% (Table 7.1). This is explained by the decline in the participation rate of men of working age – from 74.1% to 67.8%. Conversely, the participation rate of women rises from almost 17% to almost 21%, largely because of increased participation in rural areas; in urban areas, their participation rate is still only 10.4%.

These statistics suggest that the average annual growth rate of the labour force is 3.8% – 5.3% for women and 3.3% for men – so it appears that while many women have been joining the labour force some men have been dropping out. The trends for labour-force participation are mirrored by those for employment: between 1994 and 1999, the ratio of the employed to the working age population edged down from 42% to 40.6% (Table 7.1). Since population censuses tend to underestimate employment, the drop during these years was probably sharper.

Table 7.1: Labour force participation, 1994-99 (%)

Labour force participation Rate	Population census 1994	Labour force survey 1999
Total	45.8	44.3
Male	74.1	67.8
Female	16.9	20.9
Employment-population ratio		
Total	42.0	40.6
Male	67.2	61.2
Female	16.2	20.0

Sources: Mehran 2004c, based on the 1994 Population Census and 1999 Labour Force Survey

So while the economy was growing, this growth was not being translated into decent-paying employment, and certainly not for male workers. The employment-population

ratio for men dropped from 67.2% to 61.2% while that for women rose from 16.2% to 20.0%. Women were finding jobs, but doing so primarily to offset the loss of income due to male unemployment or underemployment; and they usually secured low paying or unpaid jobs, typically in agriculture.

The only males for whom the employment-population ratio rose between 1994 and 1999 were those 15 and 19 years of age (Mehran 2001). For those aged 45 years and older, however, the decline was severe – particularly for those aged 55-59 and worse still for those aged 60-64. As job creation stagnated, older workers found themselves at a distinct disadvantage in the labour market. Among women too the younger workers did better, the employment-population ratio increased most dramatically among those aged 25-49 years and particularly among those 35-49 years; for women 50 years of age or older, the ratio stagnated or declined.

Between 1994 and 1999, the proportion of the employed earning wages or salaries stayed about the same, at about 41.5% (Mehran 2004c). However, the proportion of workers in self-employment declined from 39% to 33% while that for workers in unpaid activities rose from 19% to 25%. Employment opportunities have been expanding mainly in small family enterprises, most of which have been in agriculture.

7.3 The structure of employment

The main problem with creating more jobs is the structure of employment. In 1999 agriculture still accounted for about 54% of all employment (Table 7.2). Industry is particularly weak: it accounted for less than 5%, lower even than that for construction at 6.6%.

More important was transport, accounting for almost 18% and trade, which provided over 12%. The remaining jobs came from other services. Moreover, during 2001-03 labour productivity basically stagnated in manufacturing so the economy as a whole found it difficult to raise productivity and real wages. While value-added per worker was 210,000 Rials in 2001, for example, it remained the same in 2002 and had increased to only 220,000 Rials in 2003.

Table 7.2: Sectoral structure of employment (%)

Sector	Total	Male	Female
Agriculture	54.1	43.1	87.8
Industry	4.6	5.1	2.8
Construction	6.6	8.7	0.2
Trade	12.1	15.5	1.4
Transport	17.7	21.2	7.0
Other Services	19.3	23.1	7.7

Source: Labour Force Survey 1999.

As in many other countries in the Middle East and North Africa, around three-quarters of jobs are held by men. Men are also more likely to be paid: half of the male workers

have paid employment compared with only 14% of female workers. Around 43% of male workers are still employed in agriculture whereas only about 5% are employed in industry (Table 7.2). However, almost 88% of female workers are in agriculture.

Part of the explanation for these gender trends is the lack of dynamism in both industry and service. Between 1994 and 1999 the proportion of workers employed in the public sectors dropped from over 13% to a little under 10%, chiefly affecting men (Mehran 2004c) while the private sector could not create sufficient jobs to compensate. Over this period, the share of employment in services dwindled, from 36.5% to 34.8%, while that in industry stayed virtually the same, at about 11.2%, so agriculture had to take up the slack, boosting its share from 52.2% to 54.1%, often taking in more women.

7.4 Trends in unemployment

The unemployment rate gives limited information on the labour market, particularly for poor workers, who cannot usually afford to be unemployed for long. It also does not reveal how many discouraged workers have simply dropped out of the labour force. It does, however, provide useful information on employment for more skilled or educated workers, who can usually afford to wait for a job commensurate with their abilities.

Despite a decline in the employment-population ratio between 1994 and 1999, open unemployment remained at about 8.4%. This signifies that many workers were simply dropping out of the formal sector, and thus were not showing up on the employment rolls. While male unemployment stood at 9.7% in 1999, female unemployment was much lower, at 4.2%.

If, however, the statistics uses a broader definition of unemployment – including people who are available for work but are not seeking it– then the unemployment rate in 1999 rises to 11.5%, with male unemployment rising to 12.5% and female to 8.2%. Unfortunately, these statistics are not comparable to those from the 1994 census and probably overemphasize unemployment at the expense of underemployment – which for poor workers is the more likely situation.

Despite the stability in the overall unemployment rate, the youth unemployment rate declined significantly – for workers of 15-24 years falling from 17.9% in 1994 to 12.7% in 1999. This is a hopeful sign and is consistent with the rise in the proportion of the employed who are educated – with a secondary school education or above – which rose from 10.6% in 1994 to 15.7% in 1999. Younger workers securing jobs tend to be more educated than older workers.

If the broader definition of unemployment is used, then the youth unemployment rate rises to 18.7%. At the same time, the unemployment rate among educated youth remains high, at about 23%. Also, when a somewhat different definition of unemployment is used, the percentage of youth who are inactive – neither in the labour force nor in school – is about one-third. But this is due mainly to an 'inactivity' rate of 60% among young women, many of whom are engaged in unrecorded household work. Hence, despite some improvements, overall employment generation in Yemen remains lacklustre.

Projections based on data from the 1999 Labour Force Survey suggest that while, according to a broad definition, the unemployment rate was 11.5% in 1999, and it could rise to 17.1% in 2006. Civilian employment could reach about 4.4 million workers, but with a labour force of 5.3 million (Mehran 2004a) there would be a shortfall of 908,000 jobs. At the same time, while youth unemployment was 18.7% in 1999, under these projections it could balloon to 34%.

If the labour force continues to grow at 3.8% a year – faster than the population – then just keeping unemployment steady will mean creating 188,000 jobs every year, 121,000 for men and 67,000 for women. (Mehran 2004a based on statistics from the Ministry of Planning).

From another perspective, in order to reduce the unemployment rate by one percentage point each year between 2004 and 2006, then 22,000 more jobs would need to be created annually. Added to the 188,000 jobs needed every year to keep unemployment constant, this would require 210,000 new jobs every year – far beyond the current capacity of the Yemeni economy.

7.5 The demand for labour

Based on 2002-03 trends, labour demand is currently increasing by about 117,000 paid jobs per year – 2.8% – implying an excess supply of labour of 71,000 every year (Mehran 2004a). Since the public sector has only a modest capacity to create new jobs these will have to come from the private sector.

The Labour Demand Survey of 2002-03 gives us an initial picture of the private sector's capacity. It indicates that establishments account for only about 18% of total civilian employment, while government employment accounts roughly for another 20%, and agriculture 50%. Most other workers are self-employed or in casual employment in non-agricultural activities.

Much of the employment in establishments is also self-employment or unpaid work – only 37% of the total. Also, establishments account, as a whole, for a modest share of total employment.

Moreover, the birth rate of such establishments is low. Only about 4% of all establishments are new each year (Mehran 2004a) and they are invariably micro enterprises, providing employment mostly for owner-managers and secondarily for unpaid members of the manager's household. For every 100 new establishments there are only 2.5 new paid employees. Despite donor romanticism about micro enterprises, they do not by themselves offer a viable employment solution.

During the period of coverage of the Labour Demand Survey (April 2002 – May 2003), the private sector created 19,379 paid jobs. However, half of these were replacement jobs and 37,272 paid jobs were eliminated – so in fact there was a net decline of 17,893 – 5.7%.

The largest losses were in trade (-12,836), manufacturing (-1,907) and hotels and restaurants (-513) (Table 7.3). Manufacturing and trade are the largest sources of paid employment, so if paid employment is to expand manufacturing and trade have to flourish.

The only sectors showing net gains in paid employment were education (+448), farming (+256) and mining (+129).

Table 7.3: Gains and losses in paid jobs by economic sector

Sector	Paid employees	Net change of jobs	Percentage Change
Farming	5,786	+256	4.4
Mining	10,348	+129	1.2
Manufacturing	96,385	-1,907	-2.0
Trade	69,359	-12,863	-18.5
Hotels/Restaurants	25,786	-513	-2.0
Transport	7,767	-110	-1.4
Education	9,637	+448	4.6
Health	11,119	-110	-1.0
Personal Services	9,192	-201	-2.2

Source: Mehran 2004a based on the *Labour Demand Survey 2002-2003* (CSO and LMIS). Note: Only sectors with more than 5,000 paid employees are included in this table.

If the data on employment trends from the Labour Demand Survey are accurate, then the widespread belief that micro-enterprises (defined as employing 1-4 workers) and small enterprises (5-9 workers) are the primary engines of job creation in Yemen is false. During the survey period, both micro- and small enterprises recorded net job losses whereas medium-sized enterprises (10-19 workers) and large enterprises (20+ workers) both recorded net gains (Table 7.4).

Micro-enterprises do account for a substantial number of paid employees – over 88,000 – but they experienced the largest net job losses of -17,379 (Table 7.4). At the other end of the scale, large enterprises account for the biggest number of paid employees, almost 108,000, and scored the biggest net job gains, 2,832. In micro- enterprises paid employment plummeted by almost 20% and in small enterprises by 2.5%. By contrast, in medium-sized enterprises, employment rose by over 4%.

Such data, limited and superficial though they are, suggest that medium-sized and large enterprises are likely to have the most potential to generate employment. In addition they are likely to offer decent pay. Micro- and small enterprises, on the other hand, are much more likely to provide 'poverty-reproducing' wages. As one indication, around two-thirds of educated employees (with a university degree or specialized vocational training) are employed by large firms, and their wages are 20% above the average for all educated employees. In small and medium enterprises, educated workers receive wages that are two-thirds of the average, while in micro-enterprises they receive wages that are 56% of the average.

Table 7.4: Gains and losses in paid jobs by establishment size

Size of firm	Paid employees	Net change	Percentage change
1-4 workers	88,384	-17,379	-19.7
5-9 workers	38,913	-981	-2.5
10-19 workers	22,813	927	4.1
20+ workers	107,798	2,832	2.6
Total	257,908	-14,601	-5.7

Source: Mehran (2004) based on the *Labour Demand Survey 2002-2003* (CSO and LMIS).

Box 7.1: Main results and recommendations of the Labour Demand Survey, 2003

Overall, the results of the Labour Demand Survey seem to indicate that job creation in existing establishments is not likely to make a major dent in satisfying the 188,000 new jobs required per year to meet the annual net increase of the labour force from 2004 to 2006. An implication of this result is that the employment problem in Yemen should be addressed not only in terms of job growth in existing establishments, but also in terms of employment generation through enterprise creation and this on a massive scale. The survey results also point to a need to widen and strengthen not only the vocational training programmes and specialized university education, but also the development of managerial and administrative skills through special training programmes, as these are among the areas of skill shortages and skill gaps most reported by establishments, and perceived as sources of mismatch between education and occupation by graduate employees.

The major factor of production of an economy is its supply of labour. On the demand side, the determining factors are the number of jobs, the average number of hours paid per job, and the level of real output per hour. Estimates show that in Yemen the labour force has been growing faster (3.8%) than labour demand (2.8%) in the past few years. The fast growth of the work force reflects mainly the effect of past high birth rates, the return of migrants from neighbouring countries after the first Gulf war, and the increasing readiness in recent years of Yemeni women to enter the labour market. The relatively slow growth of labour demand, on the other hand, reflects the limited job opportunities in the private sector and the saturation of the government as an employer of last resort.

If no major efforts in job creation and job improvement are made and current trends continue, the unemployment rate is projected to increase from 11.5% in 1999 to about 17 % in 2006, and more than 29% among the young (15 to 24 years old).The challenge ahead is thus enormous: not only are jobs required to meet the new entrants in the labour market every year, but also to decrease unemployment, many of them young graduates, and increasingly women. There is in addition the need to improve the nature of the existing jobs, particularly, in terms of their wages and productivity. Estimates show that:

- 188,000 new jobs are required per year to meet the annual net increase in labour force from 2004 to 2006;
- 22,000 jobs are required to decrease the current unemployment rate by 1percentage point per year during the same period; and
- 43,000 existing jobs need to be improved annually in terms of wages and productivity to decrease the number of low pay workers by 1 percentage point per year.

Total employment in Yemen may be broadly divided into four sectors: subsistence and small-holding agriculture (about 50%), government including public administration, public education and health (about 20%), establishments sector, both private and public (about 18%), and the remaining non-establishment employment (12%) including casual workers in construction, and taxi-drivers and other self-employed workers in transport and allied activities.

The Labour Demand Survey of establishments shows that job performance in 2002-2003 in this sector has been bleak. While little is known about closure of establishments, the data show that creation of new establishments has been minimal. In existing establishments, paid employment has actually decreased by about 18,000, representing a net job loss of about 5.7%. Most of the losses were in trade and manufacturing. Branches of economic activity that recorded relative employment gains were education, farming, fishing, mining, electricity, gas and water, financial and real estate services, and, generally, the medium and larger establishments.

Fortunately, future job prospects in 2004-06 appear to be brighter. The expected number of net new hiring is about 14,800 per year, representing an annual growth rate of 5.4% in labour demand in the establishment sector, significantly higher than the estimated growth rate of 2.8% for the economy as a whole. Nevertheless, this optimistic view of the establishment sector would fall short of satisfying job requirements in the next three years. The establishment sector can at best satisfy 10% of the excess of supply of labour in 200406. The bulk of reported new hiring is in trade and manufacturing, education, health and personal services.

In terms of recruitment of women, only 4.4% of establishment reported priority to female employment. The high unemployment rate among educated women and the cultural situation regarding female employment in Yemen confirm the survey results, indicating that the branches of economic activity with better prospects for promoting female employment are not only the traditional education and health sectors, but also the large financial, real estate, and communications firms, where educated women may be employed in culturally acceptable occupations involving minimum direct public contact.

A large fraction of the establishments (93%) reported difficulties in filling their vacancies. The main obstacle was skill shortages, i.e., the unavailability of skilled labour to fill the vacancies (85%). Other obstacles were the limited funds of establishments for hiring new labour or the refusal of the terms of contract by the worker, for example, when the establishment wanted to hire for a part-time job, but the worker wanted a full-time job. The specific skill difficulties in hiring new employees were “lack of leadership” or “management skills” followed by “insufficiency in foreign languages”, “lack of computer skills” and “ignorance of use of equipment”. In addition to skill shortages, establishments reported skill gaps, i.e., the inadequate skill level of existing employees. The total number of workers in need of training was reported to be 42,000, representing about 16.4% of total employment covered by the survey. The training needs differed from one occupation to another, and a list has been drawn up in this report on the main types of training needs in each occupational category involving more than 10% of the workers.

Another aspect of skill gap is the mismatch between education and occupation as perceived by the employees. About 17.7% of the graduate employees, men and women, believed that their qualification and specialization did not correspond to the job requirements of their current occu-

pation, and another 18.7% thought it had only a mild connection. Graduate employees with specialization in targeted fields such as navigation sciences, medicine and pharmacy, commerce, engineering and applied sciences and vocational training, reported relatively low levels of mismatch while those specialised in human and social sciences or theoretical sciences such as pure physics and biology indicated higher rates of mismatch with respect to their occupation.

Source: An Analysis of the Results of the Labour Demand Survey of Establishments in Yemen, 2002-2003, Report by F. Mehran, Statistical Development and Analysis, Policy Integration Department, ILO

7.5.1 Micro- and small enterprises

Although various surveys have investigated micro-, small and medium-sized enterprises (MSMEs), their results are difficult to compare because they utilize different definitions of establishment size. These surveys invariably find that micro- and small enterprises employ most labour. But most of this is self-employment (i.e., owner-workers). Within micro-enterprises employing 1-4 workers, 61% employ only one worker and another 20% employ only two. Moreover, within small enterprises employing 5-9 workers, 44% of the jobs are in firms with 5 workers and another 25% are in firms with 6 workers. If micro- and small firms are lumped together, those employing only one worker account for 59% of all jobs and those employing only two workers account for another 19%. So firms in Yemen are on average very small.

While micro-, small and medium enterprises account for much of the employment in Yemen, their aggregate contribution to GDP is small. One estimate ascribes to them about 7% of GDP (ILO 2004 based on the MSE Baseline Survey). Since the contribution of MSMEs is far lower than their contribution to employment, their level of labour productivity is pitifully small. Most workers in such firms are uneducated and unskilled. Hence, while more vibrant growth among these enterprises might help to reduce poverty, the overall effect is not likely to be pronounced since incomes in such enterprises tend to be low.

The exception is likely to be medium-sized firms, which public policy often neglects. Government policies are often biased towards large enterprises while poverty reduction strategies often focus on micro- and small enterprises. In order to correct these biases, the government should develop a more comprehensive economic strategy that can integrate the contributions of micro-, small, medium-sized and large enterprises.

The GoY can do more to create a conducive business environment that can allow micro- and small enterprises to flourish. But if its medium-term objective is to generate widespread employment at poverty-reducing wages, then it must also find ways to encourage growth among medium-sized and large enterprises. In manufacturing, medium-sized enterprises tend to be concentrated among such sub- sectors as paper and printing, and machines and equipment. Large firms are concentrated in such subsectors as chemicals and plastics, and oil refining. While medium-sized firms account for 7% of total manufacturing employment, large firms account for 36% (ILO 2004, pp. 38-39).

Some of the main problems confronting micro-, small and medium-sized enterprises are: stagnation of their product markets; lack of reliable electricity and other economic services; and lack of financial resources (ILO 2004, pp. 47-49). Stagnation is due to a lack of economic growth. The government can contribute to generating more growth by reducing excessive regulations and making business taxes more equitable, but it can also play a more direct, pro-active role in providing the public investment to expand access to economic and social services, such as electricity, water, health and education. In addition it can help in expanding access of businesses to financial services or in providing training facilities for developing management skills and supplying technical advice for starting up businesses.

7.5.2 Expected job gains

In addition to determining the scale of net job losses or gains for the period 2002-2003, the Labour Demand Survey also inquired about prospects for losses or gains over 2004-06. Since the results reflect the expectations of establishments, they are obviously less reliable than their reports on past results. Nonetheless, the results are interesting.

While the establishments report an aggregate net job loss of 5.7% during 2002-03, they project a net gain of 5.4% for 2004-06. The biggest absolute gains are expected in trade (18,307) and manufacturing (9,289). Together, these two sectors account for about 62% of the total projected increase. The biggest percentage increases are in health (12.4%), personal services (12.0%) and education (8.2%). These three sectors account for about one-quarter of the total projected absolute increase in paid employment. The hotel and restaurant sector and the mining sector projected growth at only a 1-2% rate.

Micro-enterprises are the most optimistic about increases in paid employment: they project an increase in net labour demand of 7.3% (about 21,000 jobs). But the most optimistic are medium-sized enterprises, which project a net job increase of almost 10% (about 7,500 jobs). Large enterprises project a bigger absolute increase in jobs (about 9,400) but a much smaller percentage increase, less than 3%.

In total, establishments project a net increase of 44,468 jobs over the three years 2004-06. This translates into 14,800 new jobs a year. Even if these optimistic projections are confirmed, the net yearly increase in labour demand of 14,800 would still be much lower than the net yearly increase of 71,000 that is needed. Unless more dynamic sources of growth and employment generation are identified and then actively promoted, unemployment is sure to rise, as is underemployment.

7.6 Trends in hours and wages

One indication of the low-paid nature of much of the employment in Yemen is that many workers have to labour in excess of 40 hours a week to obtain subsistence-level incomes. This is particularly true for male workers. The average for employed males in their primary jobs is 40 hours a week but over one third of them have to work 48 hours or more. – as do 15% of women. Thus, almost 30% of all workers labour 48 hours or more[38].

[38] There is under-reporting of secondary employment in the 1999 Labour Force Survey. Were the hours worked in jobs other than the primary one included, these averages would likely be significantly higher.

Another reflection of the same problem is that many workers cannot secure enough hours of work. About 40% of all the employed work fewer than 35 hours a week, with 8.5% of them working fewer than 15 hours. While men tend to work excessive hours, women have problems securing enough hours of work: almost 55% of female workers work fewer than 35 hours a week, with almost 12% of them working fewer than 15 hours.

A major reason for this pattern is that women are concentrated in sectors, such as services and agriculture, which provide irregular employment: 55% of women in paid employment are in services, where their average weekly hours are 31, and another 36% are in agriculture, where their average weekly hours are 32. By contrast, men are more concentrated in industry and trade, where average hours tend to be higher: 45 in industry and 50 in trade.

This bimodal distribution of hours of work, reflecting to some degree gender differences, implies that jobs offering a reasonable number of hours are scarce. Only about 28% of all employed workers have jobs providing between 35 and 47 hours of work per week. Growth in micro- and small enterprises is not likely, by itself, to resolve this problem. Employment in such enterprises is often self-, casual or unpaid employment. Over the long term, the expansion of paid employment in medium-sized and large enterprises is more likely to 'regularize' hours of work, i.e., stabilize them within a reasonable range that can provide decent levels of income.

Despite economic growth in the late 1990s, real wages declined. Part of the reason was the removal of subsidies on energy, transport and food, which raised prices and the overall cost of living for workers. Nominal wages increased in the 1990s in both the public and private sectors, but these increases were far outstripped by price increases. While the nominal minimum wage rate had risen, for example, to about $40 per month in 1998, the real value of this wage was only 30% of its 1990 level (ILO 2004).

One measure of the extent of the working poor is that about 13% of paid employees in 1999 earned wages that were lower than the Food Poverty Line (as defined by the Family Budget Survey). About 39% of paid employees earned wages that were lower than the overall Poverty Line. Assuming that the methodology for establishing these poverty lines is sound, such a measure of working poverty would be more useful than unemployment. Employment outcomes should be judged, for example, by whether they decrease the percentage of workers who earn wages lower than the overall poverty line.

Among paid employees, there are significant wage differentials by sector. For example, the differential in average wages between the public sector and the private sector has widened. Whereas public-sector wages used to be comparable to private- and mixed-sector wages, now they have fallen to about one-third of the private-sector level.

Part of the differential in total weekly wages is due to differences in the number of hours worked. Monthly averages earnings in agriculture are low, for example, because not only are hours per week below average (39 hours) but also (and more importantly) hourly earnings are very low (YR 65 per hour) (Table 7.5). In services, hourly

earnings are near average (YR 73 per hour) but hours worked per week (37 hours) are the lowest of any sector. In trade, however, hourly earnings are low (YR 66 per hour) but monthly earnings are boosted by above-average hours worked per week (50 hours).

On an hourly basis, average earnings for all sectors are YR 76 (Table 7.5). Earnings in the construction sector are the highest, at YR 106 per hour. Earnings in transport are also relatively high, at YR 95 per hour. By contrast, earnings are lowest in agriculture (YR 65 per hour) and trade (YR 66 per hour). Earnings in industry and services are closer to the average.

Table 7.5: Hours and earnings by sector

Economic Sector	Number of paid employees	Average weekly hours	Average monthly earnings (YR)	Average hourly earnings (YR)
Total	1,507,500	40	13,000	76
Agriculture	310,000	39	10,800	65
Industry	105,900	45	13,700	71
Construction	214,000	41	18,600	106
Trade	151,000	50	14,100	66
Transport	52,200	41	16,600	95
Other Services	764,600	37	11,500	73

Source: Mehran 2001 based on the 1999 Labour Force Survey.

In most sectors, women who are paid employees have average hourly earnings that are higher than those for men. This is the case, for example, in industry, construction, trade and services. The one sector in which women's hourly earnings (YR64 per hour) are lower than men's is agriculture. The major problem is that in all sectors women are a minority of paid employees. In addition, even when they are able to secure paid employment, in all sectors they work far fewer hours than men. While on an hourly basis, the earnings of women (YR 76) are slightly higher than those of men (YR75); on a monthly basis, women earn only YR 10,400s compared to the YR13,299 for men. This is due to fewer work hours.

Wage inequality is a problem. But it is not necessarily due to inequality in educational attainment. The highest paid 5% of employees earn YR 50,000 per month. The lowest paid 5% earn YR 5,000. Thus, the ratio of earnings of the top 5% to the bottom 5% is 10 to 1. Workers with higher education are more concentrated among those who earn YR 50,000 or more, and illiterate workers are more concentrated among those who earn less than YR 5,000.

But the relationship between education and earnings is not monotonic. Workers with higher education are heavily concentrated in the YR 10,000 to YR 20,000 per month range, which covers bout half of government employees. Also, illiterate workers are more concentrated in the range of YR 20,000 to YR 50,000, while workers with higher education are only slightly more concentrated in this range.

7.7 Policy recommendations

In order to provide widespread remunerative employment, Yemen's economy needs to grow at a much more rapid rate and spread the benefits of growth more broadly among the population. This will necessitate a dramatic scaling-up of both public and private investment. Financing for such investment will have to come from various sources: oil revenue, increased tax revenue on non-oil incomes, reduced international reserves, debt relief and substantially increased ODA in support of a national development strategy that can reach the MDG targets.

Gross investment remains relatively low. In 2002 it was 17% of GDP (World Bank 2004). This is partly explained by a lack of stimulus from public investment. But it is also explained by a poorly functioning financial system, which lacks the ability to mobilize domestic savings and channel these into productive private investment. Net national savings were less than 15% of gross national income in 2002 and domestic credit to the private sector was only about 6% of GDP (World Bank 2004).

The GoY can pursue a four-part strategy to begin generating more rapid, employment-intensive growth. First, it needs to implement more growth-oriented economic policies. Other chapters of this report have detailed recommendations for fiscal, monetary and exchange-rate policies.

While the government enjoys the boon of increased oil revenues, it should re-orient fiscal policies in order to channel these revenues concertedly into financing widespread public investment in basic economic and social infrastructure. Such investment will not only advance human development, such as for greater health and education, but it will also give a boost to economic activity – through the provision of basic infrastructure such as electricity, gas, water and roads.

Monetary policies also need to be overhauled in order to target employment creation as well as maintain moderate rates of inflation – 10%-15% per year (see Chapter 6). This will imply more pro-active sectoral credit policies, especially for those sectors that have both growth and employment potential. Such sectors can be found across the spectrum of agricultural, manufacturing and service activities. In order to maintain the international competitiveness of non-oil exports, the Government should also move to further depreciate the exchange rate. Such a measure should be combined, however, with restrictions on capital mobility, particularly within the context of more expansionary fiscal and monetary policies.

The second prong of the government's employment-creation strategy should be policies geared to diversifying the economy and supporting sectors with growth and employment potential. Targeted credit policies, such as differential reserve requirements for banks, could be considered part of this prong but other policies, such as the allocation of public investment to priority sectors, could also be utilized.

Boosting manufacturing is a crucial component of such initiatives since it has superior potential to create productive and decent-paying employment, relying principally on

the growth of medium and large enterprises. But diversification is needed in agriculture as well. This could involve the substitution of qat with other agricultural commodities, such as coffee, fruits and vegetables, which have strong export potential. Fishing is a example of an agricultural sub-sector with proven growth potential. Boosting tourism within the services sector is also an obvious priority, as is exploiting Yemen's potential in providing port facilities for shipping.

The third prong of Yemen's employment-creation strategy involves small-scale interventions that have a greater poverty-reduction focus. This could involve the focusing of public resources on small-scale, labour-intensive public works, such as for rural roads, wells or irrigation works, which can be directed to poorer regions of the country. Such initiatives could also include micro-credit, which should become an integral component of the regular financial services of banks, particularly in rural areas. But commercial banks will have to be given incentives to expand coverage of their financial services to poorer regions or social groups; profit-seeking will not motivate them to do so.

The fourth prong of Yemen's strategy involves the promotion of a more conducive business environment. Simplifying licensing fees and taxes are part of this effort. Reducing cumbersome administrative procedures, official harassment and corruption is another important part. Micro- and small enterprises often bear the brunt of such practices, so reforms in this area will serve to impart a stimulus to economic growth 'from below', among the self-employed micro-entrepreneurs and small enterprises that are struggling to expand and grow. Enabling small enterprises, which are often deprived of resources and public support, to grow rapidly into medium-sized firms – with a potential to provide decent-paying jobs – is a key component of this effort.

A comprehensive growth, employment and poverty-reduction strategy needs to implement all four prongs. These are not designed for a poverty-reduction strategy alone. They are geared, first and foremost, to generating more rapid growth and employment, and leveraging this momentum into focused public efforts to reduce poverty. All four prongs are needed for a more ambitious MDG-based national development strategy that strives to reach the 2015 targets. At the heart of such a strategy are recommendations to promote broad-based employment generation that is centred in growth sectors that have the potential to pay poverty-reducing – not poverty-reproducing – incomes.

Chapter Eight
Agriculture and livelihoods in rural Yemen

8.1 Introduction

Yemen is a predominantly rural society, with widespread poverty, food insecurity, and inadequate human development. These trends are illustrated in Table 8.1, which shows that real per capita gross domestic product (GDP) is currently very low. In this light, it is not surprising that some 48% of the population are food insecure. In part, this is because of disappointing macroeconomic performance. Thus, in the decade following Yemen's unification in 1990 constant per capita GDP grew in real terms by only 28%. It should also be noted that this growth has been quite erratic, and is in any event distorted by revenues accruing within the oil sector.

Table 8.1: Poverty and human development in rural Yemen

	1991	*1995*	*2000*	*2001*	*2002*
Constant per capita GDP, US$	246	279	316	316	
Average annual rate of growth of per capita GDP	-9.7	8.6	1.5	0.0	
Rural population, % of total					75
Rural population below poverty line, %					45 *
Food insecurity, %					48 **
Inequality					5.6 *
Female literacy rate, %					28.5
Male literacy rate, %					69.5
Female life expectancy					60.9
Male life expectancy					58.7
Under 5 infant mortality rate					113 **

Notes: Inequality is the ratio of the per capita consumption of the richest 20% of the population to the per capita consumption of the poorest 20%; (*) is for 1998; (**) is for 2003.
Source: World Bank 2004; Food and Agriculture Organization (FAO) 2004.

The impact of low incomes is felt particularly in rural Yemen, where 75% of the population live. Here 45% of the population live below the $1-a-day poverty line.

Food insecurity and poverty processes may also be deepening; a poverty assessment of Yemen in the 1990s found that the number of households living in poverty increased from 9% in 1992 to 27% in 1999 (Lofgren and Richards 2003), and between 2001 and 2004 the proportion in extreme poverty, defined as those with inadequate food, increased from 17% to 27% (A-Shami 2004). In addition, recent research into food insecurity indicates that this too is getting worse (FAO 2004).

Widespread rural poverty and food insecurity are in turn reinforced by pervasive inequality. According to the World Bank, in 1998 the per capita consumption of the richest 20% was 5.6 times that of the poorest 20%. Persistent poverty and inequality are also reflected in human development indicators, which show, in particular, poor

levels of literacy and inadequate outcomes for child-health. These indicators are even worse in rural Yemen: for example, according to a recent estimate, only 49% of farmers are literate (Yemen Country Report (YCR) 2005: 16). Notably too, women's literacy is far lower than men's.

8.2 Agriculture

8.2.1 The role of agriculture in the economy

Approximately 1.5 million households earn their livelihoods in Yemen's rural economy. Of these, 79% have farming or livestock as their principal livelihood activity (FAO 2005a). The role of the agricultural sector is demonstrated in Table 8.2, which shows that agriculture generated some 15% of total value-added in 2003. Although the share of agriculture in total value-added declined over the decade 1993-2003, much of this decline was attributable to the increasing proportion of value-added generated by mineral extraction and thus the rural economy continues to be one of the most important components of non-oil value-added. This importance is reflected in the average annual rate of growth of agricultural value-added, which between 1990 and 2002 was an impressive 5.6% (World Bank 2004). Indeed, between 1991 and 2000 agriculture contributed 19.3% of the growth in GDP per annum (World Bank 2002a: 7). Overall, in 2004 agricultural value-added per agricultural household was $1,260 (YCR 2005: 14).

Table 8.2: Agriculture in the Yemeni economy

	1993	*2003*
Agricultural value-added (% of GDP)	21.4	15.0
Rate of growth of agricultural value-added (%)	4.4	5.9 *
Economically active in agriculture (% of total economically active) (**)	60.1	50.4
of which: women (%) (**)	39.9	42.9 [39]
men (%) (**)	60.1	57.1

Notes: (*) is 2001; (**) are for 1990 and 2000, respectively.
Source: World Bank World Development Indicators 2004; FAO 2005a.

The importance of agriculture is further reflected in employment. The sector continues to employ more than half the economically active population, although there has also been a slight gender shift as the sector is becoming – somewhat – more 'feminized'. As a consequence, agriculture provides some part of the livelihoods of more than two-thirds of the population (FAO 2005a: 2).

Agriculture is undertaken on some 1.08 million hectares of arable land, in four distinct agro-ecological zones described in Table 8.3. The Highland zone which surrounds Sana'a is the principal farming area, with intensive and extensive mixed rain-fed cultivation on terraces and in streambeds, called *wadis* that only flow during the rainy period. Agriculture in the Highlands is dominated by cereal and legume cropping, with

[39] According to a different source, 60% of the agricultural labour force is female (YCR 2005: 16).

qat[40], coffee, fruit and olives being cropped on terraces, together with vines. However, high levels of investment are needed in terraces – to sustain careful levelling and catchment systems. Despite this, yields can be unreliable because of erratic rainfall.

Table 8.3: The spatial distribution of farming

	% of cultivated area	*% of farms*
The Highlands	44	61
The Eastern Plateau	26	19
The *Tihâma*	26	10
The Coast	4	10

Source: FAO 2005a.

Another important farming area is the Tihâma. Nested within a rain-fed water management system, aquifers fed from the highland *wadis* allow intensive agricultural activity in what is, in essence, largely a coastal plain along the Red Sea. Qat, grain, fruit and vegetables are cropped, although yields of grain, which is largely rain-fed, can, at times, be modest. The cropping pattern has historically been adapted to water availability, which has in the past been more limited, and which in turn has often led to speculative planting after flooding or unusual rain run-off. In the past 15 years, however, capital-intensive, mechanized-lift-pump, irrigated agriculture has been widely introduced along the *wadis* of the Tihâma, which has brought greater stability to the outcomes of production decisions; the Tihâma is now Yemen's most productive agricultural area. However this benefit has been bought at a substantial cost, in terms of sustainable water management.

Also an important farming area is the Eastern Plateau, within the Hadhramaut, where a number of valleys provide arable land that is largely rain-fed and which principally produces grain. Yields can however be variable, and are in any event low by technical or comparative standards (Barrès 2001). The eastern two-thirds of southern Yemen is all but uninhabitable.

The process of agricultural production in rural Yemen is thus shaped by water and land. Yemen is water-poor. Average annual rainfall is 500 to 800 mm in the Highlands and 50 to 100 mm in the Tihâma (World Bank 2002a: 18). Overall, the per capita share of recoverable water resources is 137 m3, compared to a water poverty line of 1,000 m3 (World Bank 2002a: 18). Further, because of its impact on productivity and wealth, access to water has, historically shaped forms of rural land tenure, and thus access to land. Crudely, in the Highlands and in the Tihâma greater relative land fertility encouraged the accrual of land amongst a group of larger landholders, and the establishment of sharecropping. Mundy (1995) suggests that in this region half the population live, at least in part, under a set of landlord-tenant relations that could be termed 'peasant'.[41] By way of contrast, in the Eastern Plateau and elsewhere the agricultural system is shaped by aridity, with a preponderance of smallholder agriculture

[40] Qat is a mild narcotic-like substance that is chewed daily by most Yemeni adults. It is discussed in more detail below.
[41] In Arabic, *ra'ãyã*.

that possesses some characteristics of a typically 'peasant' society, most notably the partial integration of rural producers into market relationships (Ellis 1993: 13). There is however some residual sharecropping.

8.2.2. Aggregate supply: crop area, volumes and shares

Table 8.4 describes the total area allocated to the main cultivated crops – half for cereals; 11% for qat and fodder; and 16% for fruit and vegetables. Livestock and fishing also provide importance sources of rural incomes: 91% of all households involved in agriculture hold some kind of livestock, whether it is cattle, sheep, goats, camels or chickens. Between 2000 and 2003 the average rate of growth of the volume of livestock products – mostly red and white meat, milk and eggs – was 5% per annum (FAO 2005a), making it amongst the most dynamic sub-sectors of the rural economy.

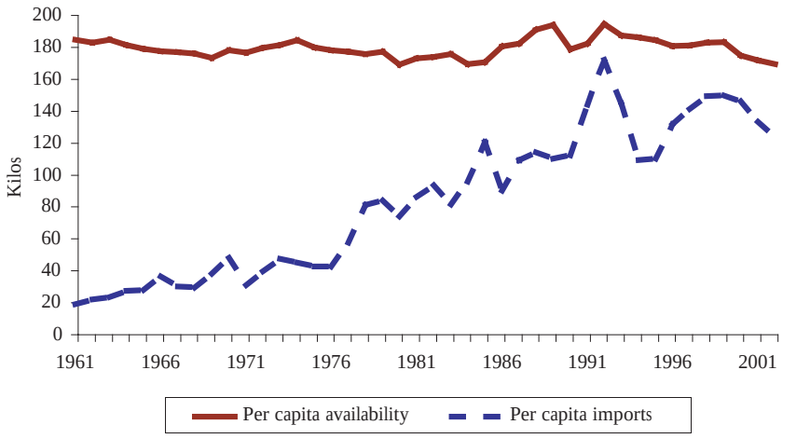
Table 8.4: The allocation of cultivated land, 2004

Total area, %	**100**
Cereals, %	50
Of which: sorghum/millet	35
Wheat	8
Cash crops, %	18
Of which: qat	11
Coffee	3
Fodder, %	11
Fruit, %	9
Vegetables, %	7
Pulses, %	5

Source: FAO 2005a

Figures 8.1, 8.2 and 8.3 present trends in food production and food security – and indicate important structural shifts. Figure 8.1 demonstrates that per-capita cereal availability has been static for more than 40 years – and at 159 kilos in 2001 was well below that needed to sustain sufficient nutritional levels (YCR 2005: 14). At the same time Figure 8.1 demonstrates that since 1985 there has been a decline – by an average of 2.4% per annum – dominated by drops in production of sorghum of 3.5% per year and in that of maize, of 2.3% per year. Wheat, on the other hand, has grown by 0.9% per annum since 1988 (YCR 2005: 15), and this is significant because the bulk of cereal consumption is now wheat, which accounts for 72% of total consumption.

Figure 8.1: Cereal supply, 1961-2002



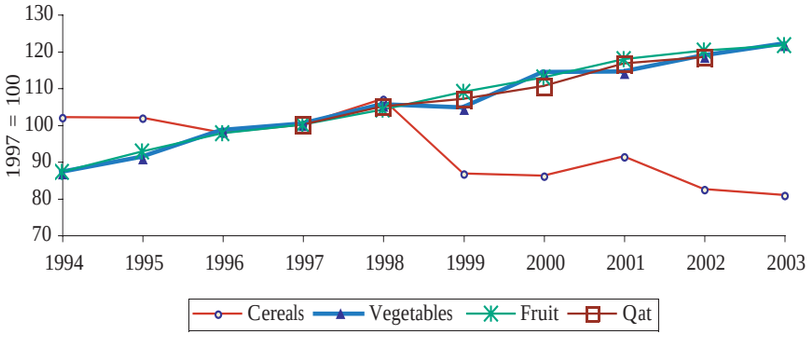
Source: FAO 2005b.

However cereal expenditure currently comprises only 36.4% of total food expenditure (Central Statistical Organization, 1999). So evaluating food security also requires looking at trends in aggregate agricultural production. This is done in Figures 8.2 and 8.3.

However, one final point can be made regarding Figure 8.1. Over this 40-year period the share of cereal imports has steadily risen, particularly during the 1980s when domestic cereal production fell. This was because internal and external household remittances, in particular from labour migration, generated the cash to purchase lower-cost government-subsidized imported grain. This suggests that there may have been some shifts in the pattern of rural production.

Of greater significance here, however, is the role of imports in sustaining food security. Currently, of course, oil balances cushion the macroeconomic impact of these imports. Figure 8.2 shows trends in the cropped area – showing a dramatic decline in the area allocated to cereals, and a corresponding increase in the area allocated to fruit, vegetables and qat.

Figure 8.2: Area under cultivation, 1994-2003

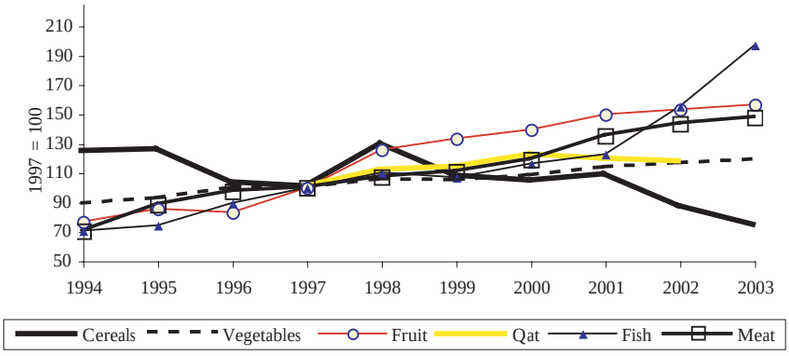


Source: FAO 2005b; CSO various issues.

Figure 8.3 shows trends in the volume of production for cereals, vegetables, and fruit, as well as fish and meat. As expected, this shows a decline in the volume of cereals production – partly attributable to imports, partly due to the reduced availability of fertilizers and pesticides following the structural adjustment programme in the 1990s, as well as the drought between 2001 and 2003.[42] It is also interesting to note that cereals production started to decline in 1998; from the mid-1990s onwards food subsidies were reduced as part of the adjustment programme, and they ceased entirely in 1999. Figure 8.3 also shows moderate increases for vegetables and qat, significant increases for fruit and meat, and a dramatic rise for fish.

Figure 8.3 thus reinforces the findings of Figures 8.1 and 8.2. Indeed, it is widely acknowledged that Yemen is now self-sufficient in higher-value food products such as fruit and vegetables (World Bank 2002a). Clearly, the rural economy can supply a diverse portfolio of foods. But will this meet nutritional requirements? These can be assessed simplistically on the basis of caloric intake per day – for which the benchmark indicator is 2,100 calories. Between 1993 and 1997 per capita consumption per day was only around 2,050 calories (Lofgren and Richards 2003)[43].

Figure 8.3: Agriculture, fish and meat production



Source: FAO 2005b; CSO various issues.

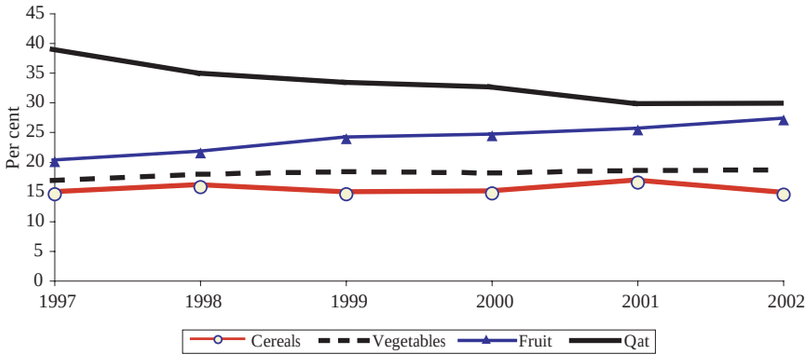
In 2001 that figure had declined to 2,022 (FAO 2005a: 4). This, along with per capita cereal availability displayed in Figure 8.1, shows that the caloric intake benchmark is still not being fulfilled. This suggests two possible, interrelated points. First, that there is significant variation in individual access to food. Second, that the distribution of access to food may be a key reason why many Yemenis have questionable food security status. This is reinforced by survey data, which indicate that 22% of rural Yemenis fail to have an evening meal at least once a week (CSO 1999).

Figure 8.4 displays shares of the total value of cereals, vegetables, fruit and qat. Curiously, despite the decline in the area and volume of cereals production the share of total agricultural output attributable to cereals remained relatively static. This suggests that falling volumes may have been offset by rising prices, which in part were a function of rising wheat prices in world markets at the end of the 1990s and which

[42] This decline is illustrated in Figure 8 above.
[43]. It is worth noting, though, that Al-Ghory (2004) suggests that per capita calorie intake in Yemen in the late 1990s was only 1700 per day.

were also in part a function of the termination of food subsidies, both of which were in turn were transmitted into local wheat markets.

Figure 8.4: Distribution of shares of total value of agricultural crops



Source: CSO various issues.

Rising prices did not, however, facilitate a supply response in wheat. Also, despite the rising area and volume attributable to vegetables their share of total agricultural output has remained static. This suggests that increasing volumes have been offset by falling prices. In addition, despite the rising area and moderately increasing volume attributable to qat its share of total agricultural output has, contrary to popular perception, apparently fallen. Again, this suggests that increasing volumes have been more than offset by falling prices. Finally, Figure 8.4 suggests that fruit is the only important agricultural product where rising area and volumes have been accompanied by an increasing share in total agricultural output. Thus, aggregate citrus production increased 20% per year between 1991 and 2003, while banana production grew by 5% per year over the same period (YCR 2005: 15).

Because of its importance in Yemeni culture and agricultural production, it is worth considering qat. By some estimates, qat produced 28.7% of agricultural value-added in 2001, employed 24% of the agricultural labour force, produced one-tenth of total household income, and consumed 30% of all irrigation water (World Bank 2002a: 18; YCR 2005: 16). The growth of qat production in the 1990s can be explained by demand and supply factors. On the demand side, qat was, in the 1990s, possibly the biggest component of household cash expenditure (Al-Ghory 2004: Table 4.31) so households who grew their own could reallocate scarce household cash to other commodities.

On the supply side, qat is lucrative – and generates cash income that allows producing households to purchase commodities that are not produced on the farm itself. Granted, most qat production is intensive in the use of purchased inputs, particularly water, fertilizer and pesticide.[44] However, it appears to have both a lower labour demand than alternative crops and is, moreover, drought resistant. Coupled to this, qat offers greater output stability – and thus potential income stability – because yields are less variable

[44]. Some strains of *qat*, and, in particular, some that are farmed in the Highlands, are less water-intensive.

than those of fruit (Mundy 1995). In this light, it is not surprising that crop budget data from field surveys suggest that qat is far more profitable than competing crops, even when the opportunity cost of the family labour used in qat production is taken into account (Al-Ghory 2004: Table 4.30a). In part, this may be because of ongoing trade restrictions on qat, which help sustain inefficient marketing systems that result, in some areas, in more than half of the final retail price going to the farmer (Al-Ghory 2004: Table 4.25).

In some areas qat brings in as much as external remittances. So as remittance incomes fell in the early 1990s many people grew more qat to sustain their incomes. In short, for many farmers qat is the most economically logical crop choice, demonstrating, *inter alia*, the rationality of rural Yemeni production decisions and moreover the responsiveness of farmers to market signals. Indeed qat, as the most important cash crop for the domestic market, plays an important role in sustaining demand in the rural economy.

Qat also has non-economic impacts. First, on gender. Qat is a 'male' crop – associated with male labour and male-controlled incomes (Mundy 1995). In the 1990s this social relationship was reinforced, as less lucrative crops became increasingly associated with female labour while qat production expanded – heightening gender-differentiated access to cash flows. Second, qat profits to an extent protected households from the full impact of rural restructuring in the 1990s.

8.2.3 Aggregate demand: external and internal drivers of change?

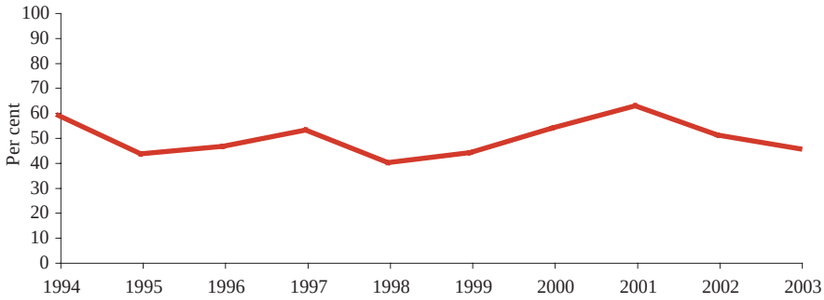
Figures 8.2, 8.3 and 8.4 indicate that important shifts are underway in Yemeni agriculture. On the demand side an important issue is the extent to which rural producers respond actively to market signals. This in turn has two components: the external market; and the internal market.

On the external component, it should be noted that in the 1990s Yemen lifted import restrictions that had produced protected domestic prices (World Bank 2002a). Trade liberalization has, of course, expanded the use of food market and market signals. It has, however, favoured bigger farmers (YCR 2005) while smallholders have seen food imports, undercut their production – with the exception of qat, for which import restrictions remain.

Figure 8.5 shows that food exports have had a fairly static share of non-oil exports, though they would have declined had it not been for dynamic fish exports. The static share of food exports can be attributed to three principal causes. First because a significant share of Yemeni agriculture is for subsistence – 76% of agricultural holdings have self-consumption as their primary purpose of production; only 24% of farm holdings are principally engaged in production for rural product markets. This is not to say that Yemeni farmers are not integrated into markets, or that they do not respond to market signals; as demonstrated by the case of qat, and the impact of trade liberalization Nevertheless they are often subsistence producers.

The second cause is underdeveloped market infrastructure, which results both in significant post-harvest losses. Poor harvesting techniques, poor storage facilities, and poor transport infrastructure all result in a lack of adequate quality-control mechanisms (FAO 2005a). Underdeveloped market infrastructure also acts as a barrier to entry in trading activities. The third reason, which is related to the second, is that regional markets are extremely competitive and will reject poor quality exports.

Figure 8.5: Food Exports as a share of non-oil exports

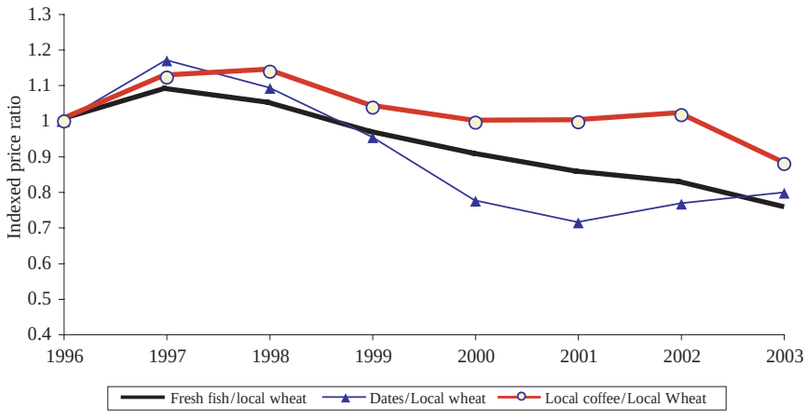


Source: FAO 2005b; CSO various issues.

The structural transformation in the rural economy in the 1990s was thus not driven by external demand. Has internal demand changed? Probably not. For a start, only 24% of farm households are principally engaged in production for rural product markets and, of these, only 4% produce exclusively for the market. Market-oriented production is still not the norm. Secondly, there has been an intrasectoral relative price shift. This is illustrated in Figure 8.6. The data are only for Sana'a, but results from other cities around the country generate similar results. The result is dramatic: a secular decline in the relative price ratio indicating that wheat was becoming more expensive relative to higher value agricultural products such as dates, fish and coffee, which would be expected to be produced for sale on the market.

This is partly a result of the dismantling of food subsidies which began in the latter part of the 1990s, terminating in 1999. Increased international wheat prices at the end of the 1990s will also have had a major impact. It should, however, be noted that since 2000 food prices in Yemen have been growing faster than international prices when measured in the same currency, indicating that food price increases are being driven by domestic factors. The ongoing increase in the relative price of wheat since then could also be due to the monopoly practices of wholesale food import merchants, who have seen their economic position strengthened since the start of the adjustment programme in the 1990s. These cumulative effects – rising international prices, the elimination of food subsidies, and the continuing power of food importers – have increased the cost of essential food purchases and contributed to a reduction in food security in rural Yemen.

Figure 8.6: Relative agricultural prices in Sana'a



Source: CSO various issues.

Nevertheless these relative changes in prices have not prompted increases in the production of cereals or fruit.[45] This is partly because production is often for subsistence, but also because of shifts in the intersectoral terms of trade against agriculture, particularly as a result of successive devaluations that have increased the prices of imported goods (World Bank 1999). Whether there has been a shift in the terms of trade against agriculture is, however, contentious. A widely cited European Union study (World Bank 1999) offered unambiguous evidence, suggesting that that a form of 'urban bias' may have reinforced subsistence production. This will, it is argued, have combined with asymmetrical information between farmers and traders and poor market infrastructure to restrict the degree of integration of rural markets.

However, some observers question whether there has in fact been a shift in the intersectoral terms of trade. Figure 8.7 shows movements of the food and non-food components of the consumer price index, which could be used as a crude approximation of the relative purchasing power of the agricultural and non-agricultural sectors. Since 2000 the non-food component of the consumer price index has been relatively stable, but food prices have been volatile, which indicates that weather-related supply shocks may play an important part in food price inflation. Finally, and most importantly, this figure shows that food price inflation appears to be accelerating. Rising food prices relative to stable non-food prices thus appear not only to be the main force underpinning inflation and they suggest that there may have been a shift in the intersectoral terms of trade, to the benefit of the rural economy.

Nevertheless, there are still good reasons to believe that the structural transformation in Yemeni agriculture have been driven by internal demand (World Bank 1999). In the wake of internal and external remittance flows in the 1980s the rural economy is now heavily monetized. Cropping decisions therefore now reflect the need to produce for subsistence and the need to generate maximum profit per unit of land for marketed crops.

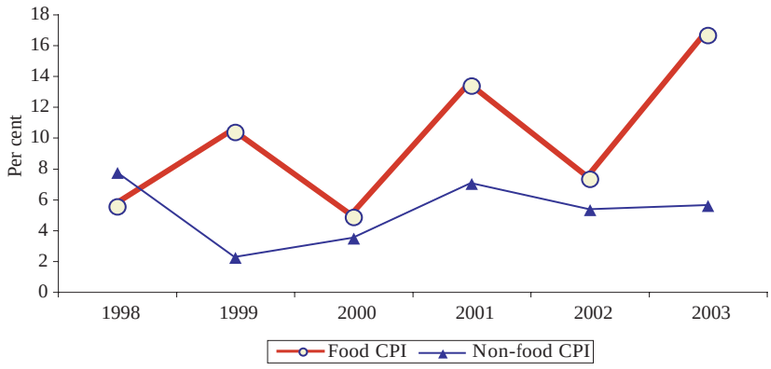
45. It is admitted that a possible explanation for this is that the categories used in Figures 2 and 3 do not correspond to the categories used in Figure 6, and thus Figure 6 has no bearing on Figures 2 and 3.

Indeed, as a result of widespread food insecurity, farmers need to maximize cash profits per unit of land from marketed crops so that they can enter food markets from a stronger position. This, together with the status of the crop in Yemeni culture, explains the increase in the production of qat which generates the highest profit per unit of land (Al-Ghory 2004). The rapid rise of fruit and vegetable production is also based upon its relative profitability per unit of land which can, in some circumstances, approach that of qat. Thus, the orientation of cropping patterns of marketed crops towards profit per unit of land, in the context of declines in internal and external remittances, food insecurity, and the need for cash in the rural economy, clearly suggests that Yemeni farmers are supply-responsive.

In this light, the lack of a response to the increase in the relative price of wheat indicates a lack of not of internal demand but of market integration – which, in turn, is a function of incomplete markets predicated upon asymmetrical information, underdeveloped marketing systems, barriers to entry that reinforce monopoly rents in the distributive services sector, and poor infrastructure. Policies to support these institutional deficiencies in the Yemeni rural economy might foster a supply response.

A caveat to this argument is however in order. Rural Yemeni production of higher value crops like qat, fruit and vegetables may be demand-driven; but the state of food security suggests that the market for higher value crops may be segmented by income, with poorer, more food-insecure households being far less likely to be able to purchase higher value crops. Indeed richer households are likely to spend a larger proportion of their income on qat and on meat than poorer households (CSO 1999). Thus, as previously suggested, there is an inequitable distribution of food entitlements.

Figure 8.7: Inflation rates in the food and non-food components of the CPI



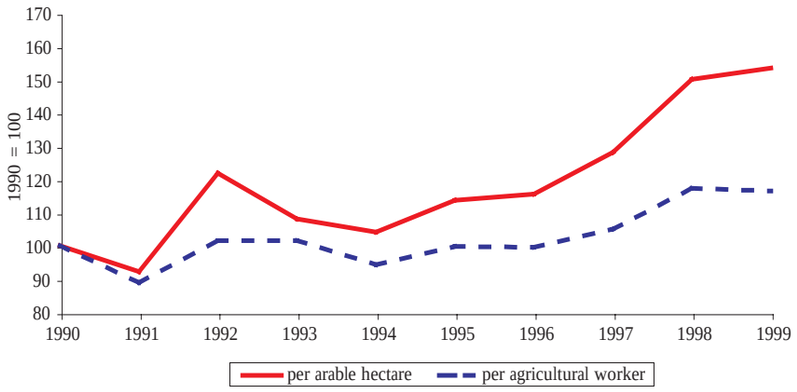
Notes: Both Indices exclude qat and tobacco. The qat and tobacco price index increased by 90% during 2000-2003, showing the highest increase in all CPI components. Source: CSO, electronic file.

8.2.4 Decomposing supply: the productivity record

If the preceding argument is correct, it is clear that farm decision-making in response to domestic demand is a function of productive capabilities. Therefore, it is necessary to look at changes on the supply side. A starting point is the overall productivity record of Yemeni agriculture as illustrated in figure 8.8. The series only runs between 1990

and 1999, when agricultural growth was solid, but nonetheless allows two trends to be established. The first is that there was only a moderate increase in constant value-added per rural worker. Granted, cereals, which are more labour-intensive, had yield increases of 1.5% per annum between 1985 and 2003 (YCR 2005: 15). However, these vary considerably by crop and for some, including wheat, are low when compared to their potential to those in other, similar economies (Barrès 2001). Fruit, meat and fish are important sources of rural growth but are not labour intensive. As a result, the rural economy is not providing employment opportunities for an expanding population, suggesting that there may be significant unemployment and underemployment in rural Yemen.

Figure 8.8: Constant agricultural value-added (1995 $)



Source: World Bank 2004.

This is reinforced by household surveys, which suggest that 16% of rural household heads are economically inactive or unemployed and that 37% are engaged in only temporary, seasonal or casual work (CSO 1999). Granted, internal and external migration have increased rural wages, reduced the rural male labour force, and encouraged the feminization of agriculture. But in the last 15 years the opportunities for migration have been dramatically curtailed. Clearly, there are significant problems of labour absorption in the rural economy, and these are reflected in rural productivity.

The second trend indicated in Figure 8.8 is the significant increase in productivity per hectare – a clear reflection of changes in the crop mix. It also suggests, however, that, given the limited increase in labour productivity and water constraints, there may have been increases in higher-yielding non-labour farm inputs, and thus a relative intensification of agricultural production. In order to assess this, Table 8.5 illustrates some of the dimensions of non-labour agricultural inputs.

Table 8.5: Non-labour agricultural inputs, 1985-2000

	1985	1990	1995	2000
Arable land per person, hectares	0.14	0.13	0.11	0.09
Irrigated land, % of cropland	21	21	28	30
Fertilizer consumption, metric tons	18,700	22,459	13,100	18,800
Number of farm tractors	5,600	5,937	5,800	n/a

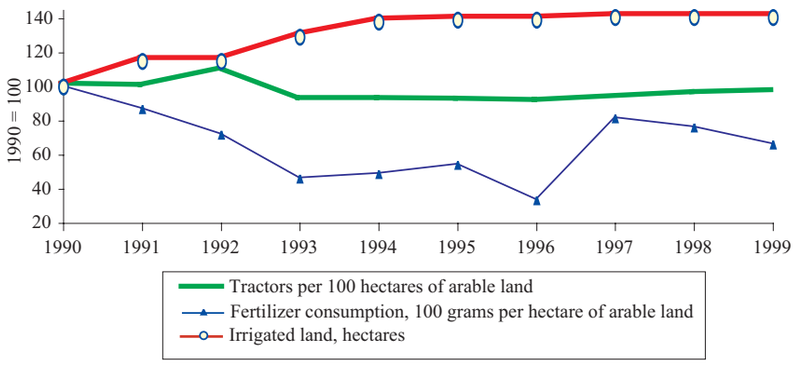
Note: n/a is not available

Source: World Bank 2004

Table 8.5 shows that over 15 years there was a marked decline in arable land per capita, an increase in the proportion of irrigated land, and at best a minimal change in the use of fertilizer and farm machinery. The increase in rural productivity per unit of land may reflect rural population increase which requires farm households to work their more intensively. However, it is likely that a more significant factor is the increase in irrigated area. This suggestion is reinforced by Figure 8.9 which shows that tractor use was broadly static and that fertilizer use declined, but that the amount of land irrigated grew, particularly between 1990 and 1994. In response, the crop mix changed in favour of more water-intensive higher value crops such as fruit and certain strains of qat.

There are thus three strategic issues of central importance in understanding agricultural production and performance: the conditions under which the limited land that is available is acquired and used; the conditions under which labour is allocated to household, farm and non-farm activities; and the conditions under which water is acquired and used.

Figure 8.9: Agricultural input growth



Source: World Bank 2004.

8.2.5 Decomposing supply: land and labour

As late as the early 1970s agricultural production in Yemen used age-old tools including the hoe, scratch ploughs, limited draft power, and household labour, with certain tasks, such as harvesting and threshing being done entirely by hand (Mundy 1995). Household production was principally for subsistence. Drought-resistant grains were the predominant crop, providing food, fibre, fuel and fodder, while limited quantities of cash crops were grown for highly localized markets.

In the late 1980s and through the 1990s, however, modern machinery and equipment began to be introduced, particularly in the form of lift-pump irrigation and tractors, along with chemical fertilizers and pesticides which on some farms contributed to a shift towards less labour-intensive production.

A key difference between poorer and richer rural households is that the former are more likely to rely upon seasonal or casual employment. Currently, there are 2.5 permanent agricultural workers per hectare (YCR 2005: 16). During peak periods this labour force may be supplemented by short-term wage labour, which is now more widespread than it was in the 1970s, and which is supplied by underemployed farm households or rural non-farm households. Thus on some farms there are more complex divisions of labour (Mundy 1995). Finally, farmers became, to a larger degree than is generally recognized, further integrated into markets, particular with regard to the production of qat.

Another issue is land distribution. This is detailed in table 8.6. Landholding is defined as land that is owned or accessed through a non-ownership tenure arrangement such as sharecropping or rental; many farms in rural Yemen combine ownership and non-ownership tenure arrangements. The number of very small holders of land has increased significantly. But there have also been more complex shifts: landholders holding less than 2 hectares or more than 20 hectares saw their area of holding increasing, while those holding between 2 and 20 hectares saw their holding decrease. In order to clarify this complexity, the final column in Table 6.6 presents the elasticity of landholding area with respect to the number of landholders. Given the nature of the calculation, the sign is less important than the absolute value. The findings are quite dramatic. Amongst those households holding less than 5 hectares, there have been small changes in the elasticity, but amongst those holdings of 20 or more hectares, while the number of landholders declined, the landholding area increased, and quite dramatically. Landholding per farm is clearly becoming more unequal.

This is reinforced by data on land ownership. According the Friedrich Ebert Stiftung (2002), households that owned less than 2 hectares of land owned 20% of all owned land, households that owned between 2 and 5 hectares of land owned 24%, and households that owned 5 hectares or more owned 56%.

This suggests that there has been a reallocation of land amongst farm households which are using, perhaps to a greater extent than is commonly acknowledged, a land market, whether it be for purchase or for some kind of lease. In this light, it can be noted that operational holdings consist, on average, of 3.6 parcels per farm – a degree of fragmentation can facilitate processes of redistribution as access to assets becomes more stratified.

According to Abdel Gader (2005), distribution of land holdings has become much more unequal: the Gini coefficient increased from about 63% in 1991 to 71% in 2001; an annual increase of the Gini at a rate of 1.1%. This inequality is intimately connected with rural poverty and food insecurity. In large part, this is because the holding of land is a good indicator of a household's wealth (FAO 2004: 33). Thus, as is demon-

strated in Table 8.7, there is a positive correlation between size of landholding and food security, a finding that is particularly strong for 'private' land (FAO 2004: 34-5). Clearly, larger plots of land make rural households less vulnerable.[46] Cumulatively, the evidence suggests that the terms and conditions governing land tenure appear to be a significant issue, one that is reinforced by the fragility of the land base and the associated declines in soil fertility.

Table 8.6: Distribution of landholding and landholding area, 1991-2001

	1991		2001		Change, 1991-2001		
Land size class	*Holders*	*Holding area*	*Holders*	*Holding area*	*Holders*	*Holding area*	*Elasticity of area with*
(hectares)	*(% of total)*	*(% of total)*	*(% of total)*	*(% of total)*	*(% of total)*	*(% of total)*	*respect to holding*
Less than 0.5	37	4.3	56.7	7.6	19.7	3.3	0.2
0.5 to less than 2	34.7	15.8	28	19.8	-6.7	4	-0.6
2 to less than 5	16.9	23.5	10	21.1	-6.9	-2.4	0.3
5 to less than 20	10.6	42	4.6	29.1	-6	-12.9	2.2
20 or more	0.9	14.4	0.7	22.5	-0.2	8.1	-40.5

Source: Arab Organization for Agricultural Development 2005; Ghimire, 2001.

Table 8.7: Land availability and food insecurity

Size of land utilized	*Percentage of food insecure households*
Landless	23.0
< 1000 m2	22.4
< 4000 m2	20.8
< 10000 m2	18.2
>= 1000 m2	16.1

Source: Food and Agriculture Organization 2004, Table 3.6

Land in Yemen may be privately owned (*mulk*); it may be owned by the state; or it may be endowed trust land, called *wakf*. In the northern governorates of the Highlands and the Tihâma, private land accounts for 85% of all land, state for 2% to 3%, and trust land for 12% to 13%. Yemeni property rights are culturally constructed by individuals, who work together in households to establish or contribute towards a claim on private, trust or collective property, whether by ownership or by lease, under an ethos

46. It may be that in rural Yemen food insecurity and poverty appear to 'identify different aspects of household needs and deprivation' (FAO 2004: 27). The basis for this claim is the finding that there appears to be a negative correlation between poverty and food insecurity in the country as a whole. In part, this is because of a shift in employment: non-agricultural households tend to be more food insecure. Associated with this is the finding that in the rural economy more food insecure households appear to have smaller landholdings, to rely more heavily on leased and what will be defined momentarily as *wakf* land, and own smaller numbers of livestock and poultry. However, the suggestion that smaller farms that rely more heavily on leasing land under less secure tenurial conditions might be pushed into, in particular, non-farm diversification and might, as a consequence, witness diminished food security, is incorrect. Less food-insecure rural households tend to have a principal job outside farming *per se*, suggesting that a more accurate way of describing the processes underpinning rural food insecurity would be that smaller farms that rely more heavily on leasing land under less secure tenurial conditions may, as a consequence, migrate to urban areas. If they do so, it would appear that they are more likely to be food insecure than those in a similar structural position that remain in the rural areas, retain their plots of land, but which, as a principal livelihood strategy, diversify into non-farm activities (FAO 2004: 108-109).

that is egalitarian yet competitive. Households that are capable of making a claim to land, and as a consequence a claim to water, form the boundaries of a rural community, while those who are unable to make such a claim to land fall outside the community (Mundy 1995). For this reason, while farmers will do their utmost to avoid losing claims to land, if they do indeed lose that claim they become more likely to exit farming altogether because they become removed from the rural community.

Following the return of collectivized land in the former South Yemen to its former owners, the dominant form of land tenure is now, owner operated holdings, which account for some 75% of the total arable area. However, titles to privately-owned land are commonly not written, there has been no cadastre, and thus legal titles are enforced through social institutions operating within the Islamic legal framework, *fiqh*. There is, however, a registry of state-owned land, while *waqf* trust land is administered through a government ministry. In the Highlands and in the Tihâma, access to rain-fed or irrigated land meant that its fertility was higher than in other parts of the country, which in turn encouraged the accumulation of private land amongst bigger landholders. In upper Yemen which is more arid the norm is smallholder owner-operated agriculture.

There is also widespread land rental. The principal reasons for this is the fragmentation of holdings, and the resulting diseconomies of scale that result, and migration, which on some farms can generate labour shortages (Al-Ghory 2004). Flat-rate cash-based land rental remains comparatively rare (Mundy 1995). As a consequence, sharecropping accounts for around 12% of the total arable area.[47] The terms of sharecropping contracts are complex. Many mid-sized and larger farms use sharecropping contracts to expand their cultivable area and reduce the diseconomies of fragmentation, but the terms and conditions differ depending on the size of landholdings. There are also differences in contracts, depending on whether the land is rain-fed or irrigated, which in turn means that there are pronounced regional differences.

Sharecropping is particularly found in irrigated areas, and thus is widespread in the Tihâma, and is also not uncommon in the Highlands. It is however also found in upper Yemen, where land that was restored to former owners in the early 1990s led to a return of a residual degree of sharecropping. For those who have relatively larger landholdings, sharecropping contracts are predicated on the proposition that the sharecropper has some capital, which is used as a down payment, is used to improve the land, or is used to bear working capital costs. This means that sharecroppers are unlikely to be small owner-operators; rather, the sharecropper is more likely to be a mid-size or large owner-operator with a long-term contract (Mundy 1995: 68). In the rain-fed areas of the Highlands the tenant retains 50% of the yield of the land net of the costs of production, plus any fodder crops and crop residues.

In the Tihâma, on the other hand, where sharecropping remains widespread, the sharecropper can still get a contract. – though the terms can be quite onerous. When the landlord provides water the share accruing to the tenant is 33% of the yield of the land net of *zakat*, a religious tithe on annual production. If the landlord obtains the

47. Anthropological evidence and field observations strongly suggest that this may be an understatement.

water from a third party, the latter gets between 33% and 50% of the yield net of *zakat*. The sharecropper often bears the non-water production costs so will commonly retain only one-fifth of the return on irrigated land (Mundy 1995: 69).

As the preceding makes clear, a land market in rural Yemen is active, especially with regard to sharecropping leases because farmers will do the most they can to avoid selling their principal non-labour asset, their land. However, despite extensive land transactions since unification there has been little state intervention in land markets and the regulatory framework is largely absent. As a consequence, as with privately owned land, there are no formal mechanisms to enforce claims on leased land, although leasing, gifting and the inheritance of land are regulated through *fiqh*.

The land market has been important, for two reasons. First, because with lower remittances household are cultivating land that they had formerly leased out which they were permitted to do under sharecropping contracts. Secondly, with the expansion of mechanization in the 1990s, and particularly lift-pump irrigation, those farmers sought to expand their use of sharecropping to irrigate a larger catchment area, and thus obtain economies of scale. They did so because water rights follow land rights, so wealthier rural households who wanted increased access to water needed more land and got this by entering into sharecropping contracts with mid-sized and small owner-operators (Mundy 1995). In this way, the size of landholdings changed as those with capital took advantage of technology to switch to higher value crops such as qat, fruit and vegetables. Richer rural households are thus more than twice as likely to grow qat, coffee, fruit, and vegetables as poorer households, who are more likely to grow sorghum, maize, and clover (CSO 1999).

Changing access to land in the 1990s thus affected rural food security, poverty and inequality – and small leaseholders, farms in low rainfall areas, and farms with small numbers of livestock are more likely to be food insecure (FAO 2005a). As a result income differentials have been rising.

Finally, small landholders rely more for their livelihoods on seasonal and casual labour. The irregularity of this employment, along with the high proportion of subsistence producers, suggests that changes in land distribution have contributed to rural poverty. In this light, the three key characteristics of Yemeni agriculture that need to evaluated from a policy perspective are the preponderance of small landholdings, the possible disincentives arising out of sharecropping for those who lack capital, and the irregularity of rural employment for those that rely upon it as a key component of their livelihood portfolio. These factors are, of course, interrelated, in that they may restrict productivity increases amongst small landholders, and in so doing contribute to food insecurity and poverty.

Moreover, the obverse can partially explain the increase in constant value-added per unit of land, a redistribution of land in favour of a smaller number of large landholders, the ability for those who have capital to increase their access to land through the use of sharecropping, and the availability of labour to hire as and when needed on relatively larger landholdings. However, this is not the complete explanation, for it does not include productivity increases due to the provision of water.

8.2.6 Decomposing supply: water

In the rural economy the most binding constraint is water is. Average annual rainfall is, at best, very low, and the per capita share of water resources is considerably below the water poverty line estimated by the World Bank (2002a). Moreover, water is an overwhelmingly rural issue, in that 90% of the water used in the Yemeni economy is used in the rural sector (World Bank 1999).

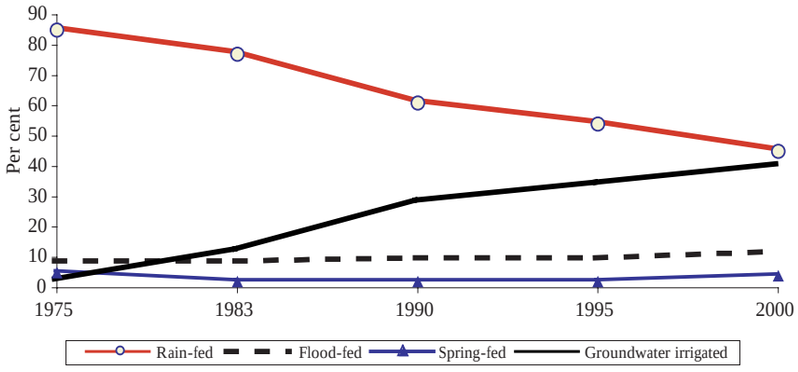
As in clear in Figure 8.10 since the mid-1970s there has been a decline in the importance of rain-fed water supply. However, it is still the largest source of water to agricultural land and a significant proportion of agricultural land relies on flooding, which is, of course, indirectly rain-fed. Thus, rain is the principal source of water for around 56% of Yemeni farmers. Moreover, reliance upon the rains is correlated with poverty and food insecurity, in that small landholders in the rain-fed areas of the Highlands in particular face wide variability in rainfall and thus frequent climatic shocks, in the form of drought. It is for this reason that Yemeni agriculture has used terraces, land levelling, and indigenous water-harvesting systems (Varisco 1991).

Nonetheless the rain-fed agricultural sub-sector has, in general, been neglected. In particular, the government's policy of importing grain for distribution at heavily subsidised prices has undercut grain production in the rain-fed areas and thus contributed to the degradation of terraces, deforestation and a lack of attention to sustaining traditional water-harvesting systems. The result is that long-standing systems of water management have eroded – with negative effects on land cultivation and rural productivity, particularly in the Highlands.[48]

Figure 8.9 demonstrates the rapid increase in the use of groundwater irrigation; the area irrigated by lift-pump wells increased from 37,000 hectares in 1970 to 368,000 in 1996 (Lofgren and Richards 2003: 21). Figure 8.10 indicates that 32% of the farmed area is groundwater irrigated. This land produces two thirds of agricultural output by value. The increase in lift-pump irrigation also contributed to the monetization of the economy, in that pump irrigation, when it is not owned by the farmer, must be paid for in cash.

[48]. The water regime in a given watershed has historically been a balance between the control of land and water in the upper catchment area and the resulting flow of water in the major *wadi* systems descending to the productive coastal plain (Varisco 1991). The use of terraces arrayed in clusters facilitated a gravity-flow sequence that irrigated the system as a whole through a common set of channels that carried the excess flow. The erosion of terraces thus results not only in direct loss of the terrace but also threatens irrigated land in the upper and middle reaches of major coastal *wadis*.

Figure 8.10: Trends in farm water supply, 1975-2000



Source: Al-Ghory 2004.

The government strongly supported the expansion of the irrigated area, particularly in the 1990s when oil revenues came on stream. It used five mechanisms.

1. Rural borrowers received interest-rate subsidies on investments in irrigation wells. However, the terms and conditions governing access to credit to finance the purchase of mechanical lift-pumps required collateral, which favoured those who already had a source of capital. In other words, groundwater irrigation subsides directed through the credit system favoured wealthier rural households. As a consequence, the benefits of government groundwater irrigation subsidies were directed towards rural sheikhs, large landowners, and business and military leaders.

2. Those who obtained lift-pumps could operate them at low cost. In addition to providing what were in effect subsidized prices for pumps the diesel fuel necessary to operate the water pumps was priced at around $0.02 per litre until 1995, which was between one-seventh and one-tenth of the international price of diesel fuel (Ward 2000). Electricity was also subsidized for those farmers who used electric pumps (World Bank 2002a: 18).

3. Government trade controls in water-intensive high valued-added sub-sectors such as fruit, vegetables and qat magnified the profitability of introducing lift-pumps to foster alterations in the crop mix. (Ward 2000).

4. The absence of any government regulation on the development or extraction of groundwater permitted unsustainable water 'mining'.

5. Public investment in surface or spate irrigation, combined with a lack of adequate access and a regulatory framework and the rapid expansion of irrigated higher value crops, has served to further encourage water mining.

As a result, water prices only covered between one-fifth and one-third the cost of extraction (Lofgren and Richards 2003) – leading to considerable water waste, in a country far below the water poverty line. In two-thirds of cases losses from the well to

the field exceeded 30% (World Bank 2002a: 19). As a consequence, water tables have fallen, often dramatically (Liechtenthaeler and Turton 1999). At the present rate of consumption groundwater in Sana'a will be depleted in 10 years and the fresh water in the country will be depleted in this century. In addition, there is widespread pollution and salinization. As a consequence of these interventions water withdrawal now far exceeds annual groundwater recharge This suggests, in turn, that the growth of Yemeni agriculture is, in its current form, ecologically unsustainable.

The water management system has clearly been inefficient, and generated returns well below potential. Moreover, the distribution of water is inequitable. In 1999 only 4% of the poorest 10% of the rural population had access to land that was by and large irrigated, compared to 20% for the richest 10% (World Bank 2002b: 59). In some areas powerful individuals are using modern drilling and pumping equipment to capture the bulk of available water resources. Indeed the allocation of subsidized lift-pump credit may have exacerbated land-holding inequalities. If a farmer wants to gain maximum benefit from the provision of irrigation subsidies, it would be logical to get more land. In this way, access to credit, access to water and the land market all interlock.

8.2.7 Conclusion: the agrarian constraint

The following points are clear. First, that domestic demand is an important driver of agrarian transformation, but there is an inequitable distribution of food entitlements. Second, changes in the technical coefficients of production can be differentiated, particularly on the basis of relative wealth and landholding. Third, this differentiation was the result of a redistribution of land in favour of large landholders during facilitated in part by the ability of those who had capital to increase their access to land through the use of long term sharecropping contracts. Fourth, as redistribution proceeded, government intervention in the provision of mechanical lift-pump irrigation served to concentrate access to water. Fifth, expansion of the control of land and water amongst those with relatively larger holdings allowed an expansion of production amongst more remunerative higher value crops such as qat, fruit and vegetables. Sixth, the expansion of higher value-added production amongst relatively larger landholdings contributed to rising income inequality in rural Yemen. Seventh, the redistribution of land through the land market increased the availability of labour for hire, as and when needed, on relatively larger landholdings. Eighth, the redistribution of land through the land market served to increase the reliance of small landholders on seasonal and casual wage labour as part of their livelihood strategies. Finally, however, this reliance served to enmesh many rural households within deepening cycles of vulnerability to poverty.

The expansion of qat in the 1990s in many ways encapsulates these processes. Qat is the most logical crop because of its profitability. However, production for most qat is water-intensive and, encourages unsustainable water use. Thus for qat, factors of production may be efficiently allocated at the private level, but they are clearly inefficiently allocated at the social level. A central rural development challenge facing Yemen is therefore to find a crop which is superior in terms of its relative profitability per unit of land, which is predicated upon sustainable water resource management techniques, and which can be widely adopted amongst poorer farm households.

Box 8.1: Water scarcity constraints to agricultural growth in Yemen

Yemen is among the poorest countries in the world with respect to water resources. Agriculture is the leading economic activity for income generation and employment creation, despite being the major water consumer. Agriculture consumes 90% of the water use in the Yemeni economy. The tightness of the water constraint can be seen clearly if we compare water availability in Yemen with other places. The per capita share of the available water resources amounts to 137 m3, as compared to 1,250 m3 for the MENA region, and 7,500 m3 world wide. The per capita share of water resources in Yemen is considerably below the water poverty line estimated at 1,000 m3 (World Bank, 2002a).

Despite the scarcity of water, its use is not well managed. Some of the policies applied encourage the intensive use of water resources, which aggravates the water problem in the country. Over two decades, government policy actively promoted groundwater irrigation through credit and diesel price subsidies and a ban on fruit, vegetables and qat imports. The absence of any regulation on development or extraction of groundwater added to the abuse of water. Effectively, anybody with the financial resources to drill could appropriate groundwater (World Bank, 1999). The result was a large increase in irrigated agriculture over time. Between 1970 and 2000, irrigated agriculture had tripled from 21,000 ha to 630,000 ha (World Bank, 2002a).

Water resources in Yemen are subject to overuse, to salination, and pollution. The most serious problem is the rapid depletion of groundwater resources as withdrawal exceeds the annual groundwater recharge. The gap between available water resources (2.5 billion m3) and the current water used (estimated at 3.4 billion m3) increased from 400 million m3 in 1990 to 900 million m3 in 2000, and is predicted to reach 10 billion m3 by 2010, assuming the increase in water use efficiency. With this trend, it is expected that 12 billion m3 of the estimated 20 billion m3 of groundwater reserves will be depleted by 2010 (World Bank, 2002a). At the present rate of consumption, it is estimated hat the groundwater in Sana'a will be depleted in a 10-year period, and the fresh water in the country will be depleted in a period of 50-100 years. Besides the fast rate of depletion of the groundwater resources, the quality of water is threatened due to salination by the overuse of the groundwater stock, and due to pollution by the extreme use of fertilizers and pesticides in the rural areas and the waste thrown in it in the urban areas (World Bank, 2001; and World Bank, 2002b).

The subsidized pricing of electricity and diesel in the past, as well as the concessional prices provided for pumps makes groundwater available to farmers at very low cost. The result is considerable waste in the water used for irrigation. It is estimated that water losses between the well and the fields ranged between 9%-78%, and in more than two-thirds of cases, the losses exceeded 30% (World Bank, 2002a). Besides the price subsidy for the means of water pumping, the Yemeni government has also encouraged and supported groundwater irrigation through other policies, like providing credits and conducting research directed mainly towards the groundwater irrigated areas, banning the import of fruits, vegetables, and qat and encouraging its cultivation through irrigated systems. However, the Yemeni government became aware in the recent years about the threat of the sharp decline in the water table. Accordingly, the National Water Resources Authority (NWRA) was created in 1996 to develop a framework to regulate and plan the use of water resources efficiently, and adjust the distorted management of those resources (World Bank, 1999).

However, this is not the only rural development dilemma. A lack of public investment in physical infrastructure has facilitated the degradation of terraces and increased post-harvest losses. There is a need to encourage rural diversification, particularly in off-farm activities, but this in turn requires skills and social investment by the government, particularly with regard to access to schools and medical facilities. Finally wage labouring in rural Yemen has a very low status. As Mundy (1995) stresses, land secures brotherhood, while landlessness socially excludes people from the community. This means that underemployed farmers and those that are economically inactive in non-household productive work are less likely to resort to wage labour. This culturally constructed agrarian constraint serves to reduce the scope of non-farm rural policy possibilities in Yemen.

8.3 Agrarian constraints and pro-poor policy considerations

The purpose of economic policy interventions is to alter the environment that consumers and producers face and in so doing enable them to increase their welfare. In rural Yemen, this has three clear implications: the need to improve food security; the need to reduce inequality; and the need to reduce poverty. This suggests, in turn, that economic policy interventions should be pro-poor – with the per capita income of the bottom 40% growing faster than that of the top 60%. Agriculture-led development strategy can be pro-poor (World Bank, 1999, 2002a) but several issues have to be addressed.

The first issue is that 'yields are below technical potential and actual farmer's yield in comparable countries' (World Bank 2002a: 17). According to the Bank, a key reason for this is that Yemen does not have a revealed comparative advantage in many traditional farm products. This suggests that international trade should, as it has in the past, remain a cornerstone of food security strategy. But this is not the same as saying that there should be wholehearted trade liberalization. During the 1990s trade liberalization favoured richer farmers producing higher value crops while undercutting smallholders with imports – with the exception, of course, of qat.

This suggests the need to encourage on-farm diversification – either market led, or facilitated by public goods directed towards the poor and near poor. Thus far, market-led diversification has reinforced food insecurity, inequality and poverty processes because poorer farmers lack the resources to take advantage of it. Therefore, there is a core need for financial transfers, to facilitate a pro-poor pattern of public goods provision. Indeed, given the pattern of growth in the rural economy in the 1990s, it would appear that redistributive public support is a necessary if not sufficient condition of a sustainable agriculture-led, pro-poor, growth-oriented development strategy.

However, government spending on agriculture has been very low, both in relative and absolute terms. It constitutes only about 2.8% of government budgetary spending in 2002; the figure was only 1.6% the previous year (A-Shami 2004: Table GS-1). The government clearly needs to recognize its potential role in facilitating increased agricultural productivity and rural incomes. Some of the issues are being addressed in the second National Plan, the Aden Agenda, and the National Water Strategy (FAO 2005a).

Specifically, there is a need to support off-farm diversification, by those poorer small landholder farms that may be able to consider entry into new livelihood security strategies;

1. the marketing and extension services needed to encourage a shift to a more higher value sustainable resource management system within the rural economy in general;
2. the infrastructure necessary to facilitate the encouragement of more sustainable resource-management systems within the rural economy in general;
3. the financial resources needed to undertake shifts to a more sustainable resource-management system amongst relatively poorer small landholder farms;
4. in particular, capacity building in democratic decentralized governance that addresses the current core issue of the asymmetrical access of poorer small landholder farms and off-farm micro enterprises to local government institutions;
5. in particular, the transitional costs of shifts in the cropping pattern amongst poorer small landholder farms towards higher value output that may take several seasons to produce a return;
6. in particular, reforms to the water-management system, directed towards benefiting relatively poorer small landholder farms, through redistributive water-access reform;
7. in particular, reforms to the land-tenure system, directed towards benefiting poorer small landholder farms, through redistributive land and tenancy reform.

This list makes clear the critical role of government support in facilitating renewed growth in agriculture. Each of these will be examined in turn, in ascending order of importance.

I. Off-farm diversification

Currently, there are very weak linkages between agricultural activity and agro-industrial activity. There has therefore been extensive discussion on ways of encouraging the establishment of micro- and small-scale enterprises in agro-processing, as well as in small-scale mercantile and manufacturing activity, as a possible avenue out of poverty (World Bank 1999; FAO 2005a; YCR 2005). Currently, those micro-enterprises that do exist have been on the basis of individual initiative or the initiative of families. However, those enterprises are the exception to the norm, in large part because, as noted, a fundamental constraint on the ability to facilitate micro-enterprise development is the low social status accorded to non-land- based economic activity in the countryside, and thus the lack of an entrepreneurial culture in rural Yemen.

In this light it is foolish to place excessive demands upon the possible employment-creating potential of micro enterprise; the route out of poverty is not the creation of a class of rural entrepreneurs. Nonetheless, for some rural households that are prepared to fundamentally reconfigure their livelihood strategies, this may be an option, and they should be able to draw upon public support.

The most important factor that could encourage off-farm diversification would be sustained growth in agricultural productivity. The elimination of barriers to business establishment, and indeed positive incentives to the establishment of businesses, would, in these circumstances, facilitate the creation of micro-enterprises. This would not however be sufficient. There is also a need to create business-oriented technical advisory services that could facilitate the development of micro-enterprises. In addition the absence of accessible credit constrains business start-ups. These are also constrained by a lack of information on consumer requirements.

II. Marketing and extension services

Poorer landholding households need better extension services – to provide advice on cropping patterns, resource allocation, and resource management, as well as marketing services to locate niche markets for higher value, more resource efficient, products while improving packaging, storage, and transport, and also offer timely information on prices and markets. Currently, post harvest losses stand at 20% for cereals, 38% for bananas, 45% for tomatoes and 60% for papaya (World Bank 2002a: 17).

Public support, principally through the construction of storage facilities and the improvement of transport networks, could be pro-poor if the social implications were included in the calculation of the economic rate of return, and if differential price schemes benefited the poor more than the rich. These services would in particular allow the faster identification and exploitation of niche products. Rural producers could exploit these but would need appropriate support through the provision of public goods specifically designed to disproportionately benefit the less well off.

III. Enhanced infrastructure

This should of course include better storage facilities and transport networks but there is a need to undertake major investment in social infrastructure. The Yemeni government, it should be noted, is well aware of this set of issues and, along with major donors, is actively engaged in trying to develop infrastructural capacity to enhance rural development. The issue here, however, is the need to design and implement this in such a way that disproportionately benefits the poor and near poor in rural Yemen.

One of the main priorities should be maintenance of terraces in the Highlands. In rural Yemen, terraces are public goods *par excellence*, and there is the need to undertake substantial investment so that the dryland terraces and seasonal flood irrigation practices can be modernized in a sustainable manner. One important by-product of this work would be the provision of additional employment opportunities. An important element would substantive democratic decentralisation so as to address the needs of those vulnerable to food insecurity and poverty.

IV. Rural finance

Currently, there is a dearth of rural credit. In 2003 only 2,230 farmers got formal credit from the Agricultural and Cooperative Credit Bank. Available agricultural credit

stands at $30 per hectare, which is very low compared to other countries in the region. Moreover, the formal rural-credit system has been, to a large extent, 'captured' by the rural landholding elite – though poorer households actually borrow more frequently from non-formal lenders and are more likely to be in debt (CSO 1999).

There are four main issues:

1. The overwhelming use of debt in rural Yemen for consumption (CSO 1999). This is true of both richer and poorer rural households.
2. The need to establish an appropriate institutional framework, which would of necessity factor in the current prevalence of consumption-based borrowing. Here, valuable lessons can be learnt from small-scale experiences in the use of microfinance in Yemen, which have demonstrated some of the same advantages in the countryside that have been well documented in other contexts. Indeed, some financial organizations could be community based, with rotating savings and credit clubs amongst smaller landholding farmers, and petty entrepreneurs developing funds to invest in improved land and water management, facilitate the purchase of processing and packaging equipment, or cultivation or harvesting equipment, all of which could be owned communally, as well as providing loans for consumption shortfalls.
3. The lessons of other experiences in microfinance are important, in that it is necessary to ensure that a greatly expanded system is not captured by the elite, but rather delivers tangible financial resources to the poor. However, the establishment of a large-scale rural financial system that adopted some of the best practices of microfinance would require substantial public resources. It is well established that many microfinance institutions must be heavily subsidized. This subsidy is paid by governments and by donors because of the pro-poor public good character of the subsidy. The issue of the extent of the subsidy necessary to expand pro-poor access to finance is one for Yemeni policy makers to decide.
4. There is a need to increase dramatically the amount of credit that is available through the rural financial system. Some have suggested $50 million (YCR 2005), but whatever the amount it has to extends deep into the countryside and reach into the livelihoods of the poor and the near-poor.

V. Decentralized democratic governance

There is now a broad consensus among multilateral agencies, bilateral donors and national governments that community-driven development, which is defined as giving control of decisions and resources to community groups and local governments, can promote local empowerment, participatory governance, demand responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity. To that end, donors and governments have sought to strengthen and finance accountable and inclusive community-based organizations as well as attempting to forge functional links between these and formal institutions. Community-based organizations have been prioritized because donors and government believe that they can complement the activities of the market and the state by assisting in the building of infrastructure, improving access to education, organizing the delivery of microfinance, managing natural resources, and permitting the scaling up of pro-poor programmes. In so doing, community-based organizations can improve the efficiency and effectiveness of rural development policies and enhance sustainability.

However, while decentralized governance can appear attractive, it is not the development solution that many of its proponents make it out to be. The reason is straightforward: decision-making processes and public resources can be captured by elites and interest groups at the local level even more readily than at the national level.

Moreover, inequalities and power relations in a community can infiltrate community-based organizations and affect how they work. These possibilities are all the more apparent in rural Yemen, where patron-client relations remain very strong, particularly in the Highlands and in the Tihâma. If therefore decentralized governance is to be introduced there is a vital need to build extensive capacity on the part of the poorer small landholding farmers and petty entrepreneurs to be able to express their voice in local institutional settings.

VI. Shifts in the cropping pattern and the costs of transition

The World Bank has done extensive analytical work on the potential of Yemeni agriculture, and much of it is remarkably optimistic given the state of water poverty . Recent World Bank analysis (YCR 2005: 18) suggests that rain-fed cereals could grow at 12% per annum if the quality of indigenous seeds were improved and if better crop husbandry practices were introduced. It suggests the need for public support for agricultural extension services, because of their inherent character as a pro-poor public good. The Bank also suggests that fruit and vegetable production could grow at 16% per annum if, again, extension services were improved and if water management techniques were enhanced in a sustainable fashion. Finally, the Bank has also suggested that the growth of livestock could also be increased if husbandry practices improved, if attention was paid to the need to encourage cross breeding, and if the management of range lands was made more effective.

The argument that Yemeni agriculture has good growth potential was further reinforced by earlier World Bank (1999: Annex I) estimates of the domestic resource costs for a range of crops. These suggested that cotton, dates, papaya, oranges, coffee, grapes, and tomatoes are highly efficient in their use of resources, while qat, onions, sesame, sorghum, millet, alfalfa and potatoes are relatively efficient.

Clearly, agriculture could grow. Indeed, it has been suggested that Yemen could quadruple its agricultural output in 5 to 10 years (A-Shami 2004). This would require better extension services directed towards the poor. However, policymakers face two additional challenges. The first is to ensure that the benefits of policy changes are not captured by rural elites. The second is to encourage poor farmers to switch to higher value, more resource efficient crops. Here, a key issue is the costs of the transition. For poorer rural households, switching to a higher value output could threatens their livelihood security – especially for perennial crops, the return from which can take several seasons to come on stream, and during which time the household must sustain its consumption. This implies income support that could be financed by a hypothecated tax on oil revenues – again so constructed that it is not captured by rural elites.

A similar argument can be made with regard to qat. Ethiopian qat is cheaper, and in any event the government is committed to seeking to reduce the role of qat in Yemeni culture and society (World Bank 1999). However, even if one such strategy in doing this was to liberalize the import of qat, in an effort to force farmers to alter their cropping patterns, this would still cause an income shock during the transition period.

VII. Sustainable water management and redistributive water-access reform

Clearly, policy must be introduced to deal with the water crisis. Multilateral agencies, bilateral donors and the government have all prioritized this, with measures bringing the price of groundwater closer to its economic cost, establishing decentralized water management associations, and encouraging the re-establishment of traditional water-conservation mechanisms in rain-fed areas. However, cost recovery, decentralisation and the renewal of long-standing systems of water management can only slow the rate of resource depletion; they are unlikely to solve the water crisis.

This is because of the lack of equitable access to water resources. Powerful landholding individuals have been able to capture the bulk of investment in modern drilling and pumping equipment. The alternative is renewed support for traditional water control systems particularly in the rain-fed areas of the Highlands – accompanied bye decentralized democratic governance reforms. This would need substantial public investment in water saving technologies and drought-resistant higher value crops such as fruit trees. It would also need investment in renewing terraces and land levelling so that dry, rain-fed terraces and seasonal flood irrigation practices can be resurrected. It would, in addition, require the provision of income support for the transition period.

There is, moreover, an argument for redistributive water-access reform in the lift-pump irrigated areas. Again with decentralized democratic governance reforms, this could involve vesting control of rights in communities. Mechanisms would however have to be put in place that encouraged water conservation – perhaps through water taxes at the head of the watercourse which could also recover some subsidies. Improved extension services could also encourage a switch in cropping patterns,

VIII. Land tenure and redistributive land reform

Some might argue that the introduction of technologies to conserve soil and water resources would be better with larger landholdings – to accrue efficiency gains in scale and scope. That argument is not supported here. The agrarian transformation since the early 1990s has indeed led to a reorganization of holdings and in part to a rise in food insecurity, inequality and in poverty in rural Yemen. Sustainable human development cannot be fostered by land-tenure arguments that privilege economic efficiency over social equity. Another approach is necessary and four issues stand out

1. A prerequisite of any rural land-tenure reform is the need to undertake a cadastre in rural Yemen. The government is committed to this necessary, but not sufficient attempt, to formalize the land-registration process.
2. With a successful cadastre, there should be a serious debate amongst policymak-

ers and civil society on redistributive land reform. The costs and benefits of such a proposal need to be seriously assessed, in financial and social terms. For the multilateral agencies and bilateral donors, the land reform that is on the agenda is a 'market-led' process, though this is unlikely to be pro-poor (Borras 2004). At the same time, evidence on the utility of redistributive reform in meeting the aspirations of the poor remains strong. Land reform is a powerful, emotive issue, cutting across cultural, social, political and economic interests; but it is one that should be investigated.

3. Even in the absence of a debate about land reform it is apparent that farmers continue to hold onto their fragmented holdings without any rationalization or consolidation. The government should encourage a pro-poor consolidation of fragmented holdings so as to increase the share of landholdings held by the smallest 60% of landholders. As part of this process, the government's plans to redistribute 50,000 hectares should proceed, though the quality of this land will be poor.
4. Even without redistributive reform there can be tenancy reform. Although many sharecroppers are large landholders, for those sharecroppers without access to assets the security of their position can be tenuous. A process of formally registering sharecropper contracts and establishing the security of tenure of those with formally registered contracts would give a powerful boost to pro-poor growth in rural Yemen. There is international evidence – principally, Operation Barga in West Bengal, India – that demonstrates the impact that tenancy reform can have on the poor, on agricultural growth, and on human development.

IX. What potential for pro-poor growth?

As this policy framework makes clear, there is potential for pro-poor rural growth. This will require more effective resource management, whether it is through land reform, improved water management systems, or infrastructural investment. It will also need a rural financial system directed at the poor.

However, the most direct and immediate policy intervention should be in the cropping pattern. Poverty reduction in the Highlands will need intensification of production or, more likely, crop diversification towards higher value output – with income support during the transitional period. In addition some authors suggest that some household may have to exit from farming (Dixon and Gulliver with Gibbon 2001) though this does not take into account the range of pro-poor policy interventions proposed here. By way of contrast, according to the same authors there is significant scope for agricultural growth and poverty reduction in the Tihâma through intensification, coupled with crop diversification and terrace restoration. Again, this analysis may understate the potential of the Tihâma because it does not take into account the range of pro-poor policy interventions that are proposed here. In any event, smallholder farmers will need income support during the transition period. Thus pro-poor policy possibilities cannot be left to markets; there is a need for significant public intervention in the provision of public goods, and public support.

8.4. Conclusion: the political economy of rural relations and policy reform

The following points are clear.

1. Domestic demand is an important engine of agrarian change, but there appears to be an inequitable distribution of food entitlements in Yemen in general and rural Yemen in particular.
2. Changes in the technical coefficients of production during the 1990s were not uniform across Yemeni farms, but could be differentiated, particularly on the basis of relative wealth, which in the first instance is predicated upon the size of landholding.
3. The basis of this differentiation was a redistribution of land in favour of a smaller number of large landholders during the 1990s – facilitated in part by the ability of those who had capital to increase their access to land through the use of long-term sharecropping contracts.
4. As redistribution took place government intervention in the provision of mechanical lift-pump irrigation served to concentrate control of access to water amongst richer farm households
5. Expansion of the control of land and water by the richer farmers facilitated an expansion of production amongst higher value market-oriented crops such as qat, fruit and vegetables.
6. The expansion of higher value production amongst relatively larger landholdings contributed to rising income inequality.
7. The redistribution of land increased the availability of labour for hire.
8. Redistribution of land increased the reliance of small landholders on seasonal and casual wage labour as part of their livelihood strategies.
9. This reliance served to enmesh many rural households within deepening cycles of vulnerability to poverty.

As a consequence of this analysis, the policy options appear reasonably clear. Simply put, government must substantially increase its public spending on the rural economy.

This public support, some of which is already being developed by the government, albeit in a more piecemeal fashion than is suggested here, cannot be seen as an isolated list of suggestions, but rather as an interrelated set of policies that both have strong complementarities and which have strong forward and backward linkages.

However, there are political constraints. In the key agricultural areas of the Highlands and the Tihâma 'traditional' power structures remain strong. In Yemen prior to the agrarian transformation of the 1990s the sheikh stood for the community, both before and outside the government (Mundy 1995). During the 1990s, this changed as the government actively sought to draw the sheikhs into a set of economic engagements that were predicated upon the possibility of individual and household advancement rather than the advancement of a tribal community. In particular, the effective 'enclosure' of what had been common irrigation water eroded political relationships at the community level and led to conflicts between those who owned pumps upstream and those that relied upon common water. This served to weaken the role of the community in favour of the private.

At the same time, in Yemeni culture the community is defined by those who are landholders while labouring has a comparatively low social status. Yet government policy in the 1990s, in promoting the economic interests of the sheikhs, has facilitated the emergence of big landlords in the Highland and the Tihâma. In so doing, the government has created a constituency with a vested interest in supporting the activities of the government, rather than the community.

These political and social arrangements are a powerful constraint. Only by addressing these and resolving the inherent contradictions in economic policy can the government develop a pro-poor policy regime.

Chapter Nine
Trade and industry

9.1 Introduction

Since initiating a programme of radical economic reforms in 1995, Yemen has become one of the most open and trade liberalized economies in the MENA region. Economic liberalization has yet, however, to be translated into tangible economic benefits for the majority of the population. Most non-oil exports remain primary, low value-added products and along with the dominance of oil exports, the economy is vulnerable to price and demand fluctuations in global markets.

The manufacturing sector at present plays a minor role in the economy. It accounts for approximately 10% of GDP, is growing relatively slowly and has yet to realize its potential to improve its export performance. The sector is dominated by small and medium size enterprises (SMEs), with limited technological capabilities, few inter-industry linkages, and constrained by inadequate infrastructural facilities, skill shortages and inadequate institutions.

Yemen has a culture of trade rather than production, and there is as yet little evidence of the emergence of a dynamic private sector. Privatization has so far had a limited impact and there is only limited direct foreign investment (DFI). The Yemeni economy is one of the least competitive in the world.

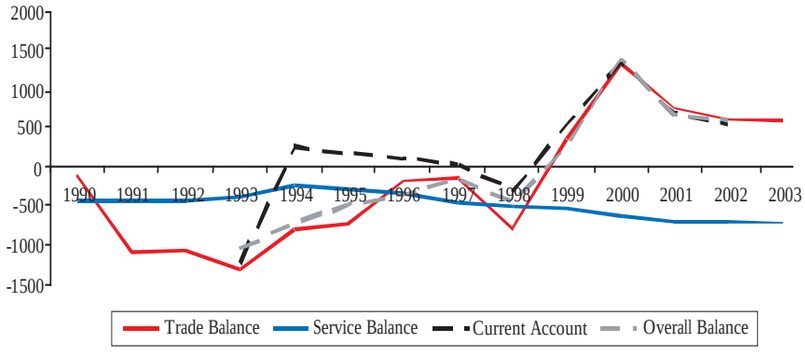
The achievement of the Millennium Development Goals will require employment creation on a large scale in the manufacturing and service sectors. The question is not whether to industrialize but how. Given the Yemen's limited domestic market, any industrialization strategy needs to be export-led – exploiting existing comparative advantages and developing new, dynamic competitive advantages. Yemen must learn from the experience of the East and South East Asian economies, and the GoY must be willing and able to fulfil the functions of a developmental state, especially with respect to creating the institutions necessary to overcome pervasive market failures.

9.2 The trade sector

In recent years the Yemeni economy has become more open: between 1991 and 2003 as a percentage of GDP trade in goods rose from 39% to 66%, and trade in services from 10% to 11%. This however its not based on increased real value of trade; it is mainly due to the exchange rate reform and revaluation of the oil revenues at the market exchange rate. Radical policies undertaken by the GoY to liberalize and reform trade have thus not translated into significant changes.

Over the period 1990-2003 as a result of volatile export prices the trade balance experienced significant fluctuations – in deficit between 1990 and 1998 and in surplus thereafter. The services balance[49] on the other hand has been in deficit for the whole period for which data are available. This is illustrated in Figure 9.1.

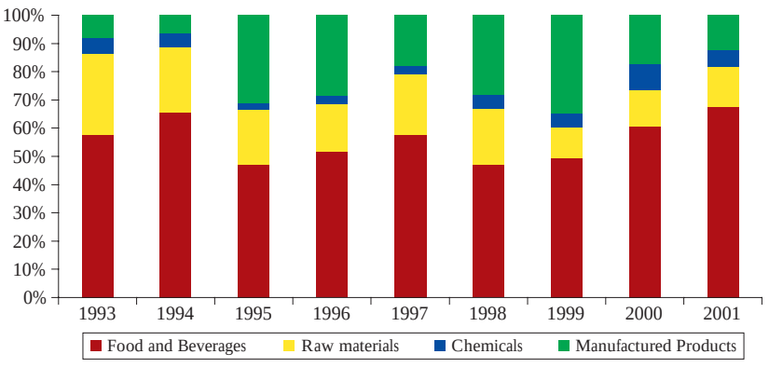
Figure 9.1: Balances of trade and services, current Account and Overall Balance ($m)



Source: Ministry of Planning and International Cooperation, Central Statistical Organization (2003), *Statistical Yearbook*, August 2003.

Oil accounts for approximately 95% of total exports, with fish in second place. The composition of non-oil exports is shown in Figure 9.2. With respect to imports, the largest items were manufactured goods and machinery and equipment, followed by foodstuffs. Figure 9.3 shows the composition of imports.

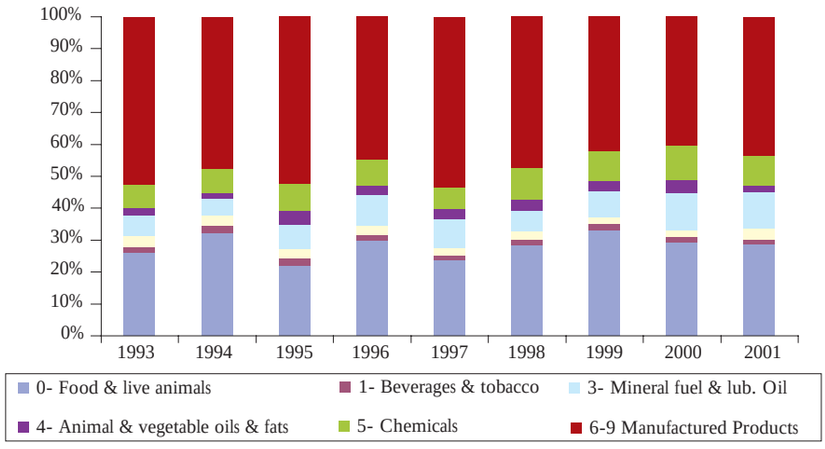
Figure 9.2: Composition of non-oil exports, 1993-2001



Source: CSO, Statistical Yearbook, various issues.

[49] There is no clear definition in the Statistical Yearbook for what services mean and hence we adopt the definition of the IMF and UNCTAD: Services are the economic output of intangible commodities that may be produced, transferred, and consumed at the same time. They include 11 major categories, namely transport, travel, communication, construction, insurance, financial services, computer and information services, royalties and license fees, other business services, personal and cultural and recreational services, and government services.

Figure 9.3: Composition of imports (1993-2001)



Source: Statistical Yearbook 2004

Yemen's export performance over the period 1995-2000 was not impressive. An analysis based on revealed comparative advantage indicates that Yemen has failed to move into product lines that are growing faster than world trade as a whole. Indeed the opposite appears to be the case – Yemen is increasing its exports in commodity categories that are experiencing below-average growth in global commodity markets.

In general, Yemen's export performance is a cause for concern. Exports are concentrated in a narrow range of primary products. Oil is a finite resource and reserves are likely to be exhausted in the near future. And non-oil exports are concentrated in slow-growing sectors of global trade in which Yemen will face stiff competition from other low-income economies. Yemen has a high export similarity with other Arab countries, especially the Gulf economies and there is no evidence that Yemen will be in a position in the near future easily to develop an export-led industrialization strategy.

Yemen's trade is highly concentrated geographically. Most exports are directed to a handful of non-Arab Asian countries accounting for more than 75% of its total exports. The Arab countries absorb on average 10% of Yemen's total exports. On the imports side, the Arab countries and especially the Gulf Cooperation Council (GCC) countries supply around 40% of its imports, followed by non-Arab Asian countries which account for around 23%.

The most important export markets include India, Thailand, the Republic of Korea, China, and Singapore, each accounting on average for more than 10% of Yemen's total exports. Among the most important Arab importers are Saudi Arabia (about 2%), followed by Kuwait, Egypt and the United Arab Emirates. Total exports to the Arab countries are less than the exports of one of the top non-Arab Asian countries. Furthermore, since 1995 there have been changes in major export destinations, with a number of European economies, including Germany, France and Austria becoming less significant.

On the imports side, the major exporters to Yemen are Saudi Arabia and United Arab Emirates, each accounting for more than 10% of Yemen's total imports. They are followed by Kuwait, China, USA, and India.

Yemen is unusual among Arab countries in having a high export concentration with non-Arab Asian countries. The Arab countries in general have either a high geographical trade concentration with the European Union, or the USA. Yemen's unique trade pattern might be related to historical ties between Yemen and the handful of non-Arab Asian countries to which Yemeni nationals have migrated. The exports of fish and meat products support this hypothesis.

Yemen is a member of relatively few formal regional trade agreements (RTAs). For example, it has recently joined the Pan Arab Free Trade Area (PAFTA) Agreement as a least developed member country, but the conditions for least developed countries are still not very clear. Yemen has a preferential trade agreements with Saudi Arabia which entered into force in 2000. It also has one with Iraq, ratified in 2002, but due to the situation in Iraq, this agreement has not come into force.

In the case of Saudi Arabia, the agreement allows reciprocal preferential treatment in each other's market. However, with the full implementation of the PAFTA in 2005, this agreement is likely to be obsolete (unless extensions are given to least-developed members). The GoY has been pursuing membership of the Gulf Cooperation Council (GCC), and in 2002 Yemen joined the GCC bodies related to sport, labour, education, and health. A new project is underway to establish a free trade area between Yemen, Sudan, and Ethiopia[50], though this has not yet been implemented and negotiations are taking place slowly.

Yemen also has agreements with 56 other countries. These, however, do not extend beyond signing a protocol on trade promotion or investment promotion, and are relatively diverse in terms of their nature, content and geographical distribution. In reality such agreements remain on paper without actual implementation. Finally, the USA signed a Trade and Investment Framework Agreement (TIFA) with Yemen in 2003[51].

Yemen by most measures has a liberal, open, market economy. It started its trade reform programme in 1995 with the assistance of the World Bank and the IMF, aiming to liberalize and integrate into the global economy. The maximum tariff was reduced from 200% in 1996 with 15 bands, to 25% in 1997 with 4 bands. The weighted average tariff rate is 10.5% – lower than that in the majority of Arab non-GCC members – and 51% of items lie in the 5%-10% band.

Tariff revenue accounts for about 29% of Yemen's tax revenues and around 5% of total government revenue. The average tax collection rate is around 8%, which is relatively low, largely as a result of various forms of exemption.

Yemen does not follow any specific policy regarding targeting promising export sectors and promoting them through subsidies or any other means of assistance. It does not impose any export taxes. Its Customs Law (Law No. 14/1990) allows for duty drawbacks for exporters on imported components used in the manufacture of an

[50] Draft Agreement of setting up a free trade area between the three countries in 2004.
[51] TIFA agreements have been signed by the USA with a large number of countries around the world. They are considered to be the first step in the creation of free trade areas.

exported good. As noted above, the GoY has adopted trade policy reforms that have liberalized and opened up the economy, following an orthodox neo-classical policy agenda. However, tariff escalation remains an important issue, and the effective rate of protection is relatively high in some sectors such as the plastics and leather industries[52].

Yemen has no quota systems, and does not apply discriminatory non-tariff barriers. It does have Sanitary and Phytosanitary measures, consistent with the principles of the WTO.

The efficient functioning of a liberal open economy depends on appropriate organizations and institutions that can ensure positive outcomes of market processes. However, Yemen largely lacks such organizations and institutions. It has, for example, neither an antidumping authority nor a competition authority.

Most Yemeni trade-related organizations are not able to carry out their functions owing to a combination of limited human capital and weak enforcement mechanisms. The customs authority is weak despite its adoption of the Automated System for Customs Data (ASYCUDA), which contributes to a high incidence of cross-border smuggling.

With respect to standards, the Yemen Standards, Metrology and Quality Control Organization (YSMQCO) is responsible both for formulating technical regulations and standards of products and processes and for assessing and enforcing conformity of importers, exporters and manufacturers with these regulations and standards. In 2002 however, UNIDO reported that YSMQCO was not up to international standards. The WTO administers the implementation of a set of agreements that include the Agreement on Technical Barriers to Trade (TBT) and the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). Governments have increasingly imposed mandatory technical regulations on products for reasons of security, health or the environment and have introduced non-mandatory standards for products in order to facilitate their trade and utilization. Member countries of the WTO may apply trade-restrictive measures for the protection of human life or health or of plant and animal life and health.

The enforcement of such standards in the domestic market extremely difficult because of large-scale smuggling. It is difficult for Yemeni enterprises that meet approved standards to compete with smuggled goods. With respect to exports, SPSs in particular are increasingly being used to protect human and animal health, and Yemeni exporters will need proper certification before they can be guaranteed access to key overseas markets. The YSMQCO has a vital role to play in this respect and any shortcomings in its ability to enforce standards will damage Yemen's future export performance. Further international assistance might well be necessary to ensure that Yemeni accreditation procedures meet international standards.

[52] See Ministry of Planning and International Cooperation (2002) unpublished mimeo.

9.2.1 Implications of WTO accession

Accession to the WTO was formally applied for in July 2002, and Yemen submitted its Memorandum on the Foreign Trade Regime (MFTR). Since then, the GoY has received a number of questions from WTO members, especially the USA and the EU, enquiring about different regulatory issues with the questions mainly related to Intellectual Property Rights (IPR).

There are several legal implications of Yemen accession to the WTO that involve the enacting of certain laws and regulations to be in line with WTO requirements, or the enforcement of certain regulations that exist in theory but are not implemented in reality. Among the first group of laws and regulations is that on IPR. The second group includes some not required for accession but important for Yemen's development, for example, competition law, anti-dumping and countervailing measures.

Among the major accession problems is the lack of people who can master WTO issues and handle negotiations. The establishment of a WTO Accession Unit under the auspices of the Ministry of Industry and Trade is a step in the right direction. However, there is a lack of awareness of WTO issues among the whole of Yemeni society, whether government or private sector.

The efforts so far undertaken by the GoY to ensure successful accession are far from complete. But accession is not the whole story. As Yemen moves to a market economy, it will have to address issues of market failure – through such institutions as appropriate and enforceable regulatory frameworks, financial institutions, educational and training institutions and the encouragement of research and development. Only when these are in place, along with an appropriate macroeconomic framework, will Yemen have any chance of pursuing export-led development.

Least developed countries have several advantages in the WTO that in principle should benefit Yemen's development efforts. Such provisions include longer transitional periods, increased technical and financial assistance, and allowance to provide subsidies for exporting. However, before becoming a member, it is likely that Yemen will be required to accept several binding obligations that may restrict its benefits after accession.

9.2.2 Policy recommendations

The challenges facing Yemen include achieving higher economic growth that will translate into poverty reduction, developing human resources, improving infrastructure facilities and strengthening social protection for vulnerable groups. Yemen has undergone significant trade liberalization but has yet to realize the potential benefits of such a strategy.

1. *An Export Promotion Council*. The main constraints are largely on the supply, rather than the demand, side. However effective institutions, such as an Export Promotion Council, are needed to promote existing and non-traditional exports. As Yemen becomes more fully integrated into the world economy it needs to

identify and target new products and markets (leather products, handicrafts) and upgrade existing exports (natural honey and coffee, for example). For this it will need to acquire more sophisticated marketing skills.

2. *Investment options*. Yemen should seek non-conventional options for enhancing trade and investment, for example, offset agreements where the purchase of weapons from a developed country is complemented by direct foreign investment in civil industries. Moreover, Yemen should try to promote the service sectors where it enjoys a potential comparative advantage – for example, in tourism and sea transport. The infrastructure for both services remains weak, however.

3. *Free Trade Zones*. Yemen's main free trade zone is Aden. This has suffered from a number of problems, ranging from idle, undeveloped land to the overlapping of jurisdictions with respect to different zone activities. On the other hand, Yemen does not suffer from land titling or property rights problems so it could develop additional free trade zones while alleviating the problems in the established zone.

4. *Choosing partners*. In the new global economy Yemen should choose its trade and investment partners strategically . With increasing raw material prices, trade between Africa and Asia is bound to expand and Yemen is in a unique position to take advantage as a trade hub. China in particular is very keen to invest in ports to create a hub in Aden for raw material exports from Africa to China. Such large-scale foreign investments are critical for the future of Yemen.

5. *Fisheries*. The most important non-oil, export sector is fisheries – and the export potential is huge, although it has been mismanaged in the past. The Yemeni Ministry of Fish Wealth is still responsible for several carriers as well as for some fisheries marketing and production agencies. Recent reforms in this sector can help to boost exports while increasing the revenue accruing to the GoY. There is an urgent need to upgrade the infrastructure dealing with fish-transport, handling, storing, and conformity assessment issues (testing, certification, accreditation, etc.)[53]. Membership of the WTO should ensure that Yemen has better market access for its fish product exports in the future, though the standards of the importing countries will have to be met as per the SPS Agreement. The key is to combine improved management of fishery resources, which is currently underway, with the development of better infrastructure for exporting. From a developmental perspective, it is better to increase the domestic value-added by processing fish rather than exporting them raw. However, processing facilities will require capital investment that is not forthcoming at present. Other studies have recommended a review of licensing procedures[54] (which has already has taken place) and suggested new fish farming methods.[55] These should be

[53] For a review of all the required steps needed to enhance competitiveness in this field, see UNIDO (2002) "Sustaining Competitiveness in Global Markets: Preparing Yemen for WTO Accession", draft format.
[54] For a review of the licensing procedures see World Bank (2003), "Poverty Reduction Strategy" draft format.
[55] See for example World Bank (2002), "Economic Growth in the Republic of Yemen: Sources, Constraints, and Potentials", Washington D.C.: World Bank.

encouraged by both the GoY and international donors to assist Yemen in raising value-added and perhaps developing new markets for Yemen's fish products.

6. *Foreign Direct Investment*. Private investment in Yemen fell to around 10% of GDP from 2000 onwards (Statistical Yearbook, 2003), and on a number of occasions since 1994 outflows of capital have exceeded inflows. For FDI Yemen is one of the least attractive countries. The latest World Investment Report (2003) ranks Yemen as second from bottom in terms of FDI net inflows – $89 million. This is a significant fall from $136 million in 2001 and an annual average of $203 million over the period 1992-97[56]. This is mainly the result of a poor investment climate, the absence of efficient institutions, and the lack of security with respect to property rights related to land titling, coupled with a weak judiciary. To attract FDI, the GoY should start by solving the land titling problem and improving the judicial system.

7. *Regional Linkages*. Given the limited industrial base and the scarce human and financial resources required to develop such a base, Yemen should seek to enter regional value chains and specialize more in areas where it has competitive advantages. Natural honey, coffee and fish and fish products have already been mentioned. Participation in such value chains may help overcome Yemen's financial, human and technical constraints and assist the export promotion efforts.

9.2.3 Trade liberalization and human development

Many low-income economies pursuing structural adjustment and liberalization programmes have embarked on trade liberalization. However trade theories do not say much about how trade can contribute to human development, nor is there strong empirical evidence that trade openness automatically produces higher economic growth and subsequently enables the achievement of poverty-reduction and human-development goals. While acknowledging the above, a recent UNDP report (2003) has underlined a two-way relationship between trade and human development.

Trade can contribute to human development mainly through employment-led growth. By creating new employment opportunities, it generates more income that can be used by households or individuals to improve nutrition and invest in children's education or skills development, and thus enhance human capabilities. Growth can also generate additional government revenue that can be used to reduce inequalities and improve health and education. In addition to these direct growth effects, "trade can enlarge people's choices by expanding markets for goods and services and by providing stable incomes for households" (UNDP, 2003, p. 27).

Finally, trade can contribute to human development when its benefits are used to increase equity among different groups, including between men and women, and when it improves women's socio-economic conditions – more employment opportu-

[56] See UNCTAD (2004), *World Investment Report: The Shift Towards Services*, New York and Geneva: United Nations.

nities, higher wages and more secure jobs. However the experience of many developing countries in the last two decades suggests that greater integration with the global economy can also make these economies and societies more vulnerable to external shocks, "threatening the security of livelihoods and incomes" (UNDP, 2003, p.27).

Conversely "better human development outcomes, in the form of improved capabilities as the result of a healthier, better educated and more skilled workforce contribute to higher economic growth and better trade outcomes" (UNDP, 2003, p.27). From this perspective, countries poorly endowed with human resources and infrastructure may be unable to benefit substantially from trade.

9.3 The manufacturing sector

In Yemen the manufacturing sector plays a minor role. Between 1990 and 2003, the manufacturing sector contributed on average 9.7% of GDP (excluding oil) and employed 12% of the labour force. In the 1990s manufacturing value-added grew on average by 7.8% annually – lower than the 10% growth envisaged in the Second Five Year Plan (SFYP) (World Bank, 2002, p.15). Performance was very volatile but since 1995 has stabilized at a lower real growth over the period 1995-2003 of 5.4% per annum.

From 1970 to 1990 the GoY aimed to modernize the Yemeni economy through industrial growth, import substitution and employment generation. This has largely relied on the public sector, especially in South Yemen. The private industrial sector has been very limited, especially in the North.

In the past the manufacturing sector expanded as a result of growth in domestic consumer demand – fuelled by economic growth and Yemeni expatriates in the Gulf. The government offered some incentives to local manufacturers by providing tariff protection, and quantitative restrictions – classic import-substitution policies.

Table 9.1: Gross output and value-added in the manufacturing sector 2000, YR millions

Firms (by size)	No. of Enterp.	Gross Output	Value-added	No. of Emp.	Owners/ Unpaid Emp.	Paid Emp.	Labour Productivity	Paid Workers Productivity	Value-added per Emp.
Large Enterp.	377	304,542	67,946	49,817	428	40,421	6	7,534	1,663
% of total	1%	87%	73%	41%	1%	63%			
Medium Enterp.	1,316	6,551	3,792	8,101	3,147	4,531	0.808	1.446	0.494
% of total	4%	2%	4%	7%	7%	7%			
Small Enterp.	33,832	351,178	20,829	63,509	42,547	18,805	0.631	2	0.339
% of total	95%	11%	23%	52%	92%	30%			
Total	33,832	351,178	92,567	121,427	46,122	63,757	2.892	5.508	0.842

Source: Industrial Survey 2000, p. 21; Central Statistical Organization.

Enterp. denotes enterprises.

The industrial sector is a relatively new area of economic activity. Most industries were established between the second half of the 1970s and the 1980s and have been concen-

trated in food- and beverage-processing plants – which require low capital investment and operating costs, with high returns. In 2003, the food and beverage industry represented 25% of the sector's value-added, followed by the structural and non-metallic products industry with 13%, and the tobacco industry, with 11.6%. Over the last five years the contributions and ranking of the leading sectors have not witnessed major changes.

Most industrial sectors have a significant regional presence, but most businesses are located in cities, with the largest concentration of establishments in the capital, Sana'a, with 18.6%, followed by Taiz (11.2%), and Ebb (10.8%) and Hadhramout governorate (9.5%, Hodeidah (8.1%), and Aden (5%). Most small governorates and towns are unable to attract investment.

The sector is dominated by small establishments employing fewer than four people which in 2000, represented 95% of operating establishments; medium size enterprises represented 4% and large firms only 1% (Table 9.1)

This pattern is clear across all sectors. Small firms face relatively minimal difficulties in entering a market, though face significant obstacles to growth in value-added and specialization.[57] The available data suggest that most small firms are run by one or two individuals with little interaction with intermediaries.

Table 9.2: Number of manufacturing establishments by size and activity 2000

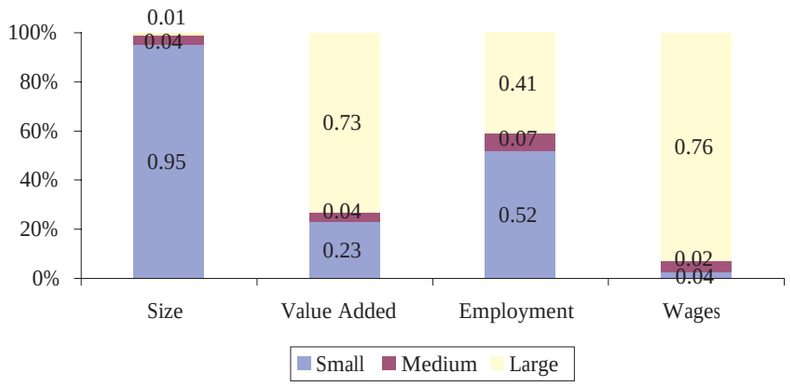
ISIC	Activity	Large	Medium	Small	Total
15	Food Processing	74	336	15289	15699
16	Tobacco Products	3	17	123	143
17	Manufacture of Textiles	14	47	943	1004
18	Dressmaking and Fur dyeing	7	54	2,768	2,829
19	Bags, Shoes and Hide tanning	11	8	215	234
20	Wood Products	14	96	2,002	2,112
21	Paper and Paper Products	12	-	-	12
22	Printing and Publishing	18	36	29	83
23	Refined Petroleum Products	2	-	-	2
24	Chemical Products	13	1	-	14
25	Plastic Products	21	4	-	25
26	Structural Non-Metallic	34	271	2,748	3,053
28	Worker Metal Products	44	191	3,238	3473
29	Machinery and Equipment	2	3	6	11
31	Electrical Equipment and Apparatus	2	-	-	2
35	Other Transport Equipment	2	18	21	41
36	Furniture	11	16	1,559	1,586
40	Electrical Supplies	29	38	933	1,000
41	Water Purification and Distribution	29	52	1,852	1,933
	Total	**377**	**1,316**	**32,139**	**33,832**

Source: *Industrial Survey 2000*, pp. 29-31.

In terms of total employees in manufacturing, however, the large firms make a significant contribution. According to the Industrial Census in 2000, large establishments, which constituted 1% of total establishments, employed 49,817 employees, representing 41% of total employment in the sector. Medium-sized enterprises, which represented 4% of establishments, employed 8,101 employees, equivalent to 7% of the sector's total employment, while small establishments employed 63,509 employees, representing 52% of employees.

The number of the employees in the manufacturing sector in 2000 reached 121,427 – comprising 63,757 permanently paid employees, 11,548 temporary employees and 46,122 owners and non-paid employees. The number of employees declined by 1.4% in the year 2002 to 119,625. The main reason for this fall was the closing down of some small firms that could not longer operate in the market. The drop in employment and the number of establishments was associated with a decline in the value-added of small establishments, which fell by 5.8% at current prices between 2000 and 2002. Medium-sized establishments managed to increase their value-added by 6.8% over the same period. Medium-sized enterprises seem to be more resilient and have managed to adapt more quickly to changes in market conditions. Figure 9.4 shows the main features of the manufacturing sector in Yemen over the period 2000-03.

Figure 9.4: Basic indicators of small, medium and large enterprises in manufacturing, 2000-2003



Source: Based on Industrial Survey 2000, p. 21; Central Statistical Organization.

There are significant variations in levels of labour productivity across sub-sectors and size classes. The larger firms in general have higher levels of productivity (tobacco and cigarettes, chemicals and chemical products, paper and paper products, for example).

Sub-sectors that are more labour intensive (wood and structural non-metallic products) tend to have lower levels of labour productivity, making them less competitive. In activities such as furniture-making and textiles and garments, where Yemen might have a comparative advantage, immediate action is needed to enhance productivity and competitiveness.

57 *Economic Growth in the Republic of Yemen: Sources, Constraints and Prospects*, World Bank (2002), Washington, USA.

The *UNIDO 2002* [58] benchmark factors that greatly influence competitive industrial performance (CIP) are skills, technological efforts, inward FDI, technological licensing and modern infrastructure. Yemen ranks 90 among 93 countries included in the analysis.

In developed economies, SMEs are often found in modern manufacturing and services sub-sectors – often in the field of cutting-edge technology – with strong entrepreneurial bases, vibrant exports and a large base of educated technical manpower. In the majority of low income, developing economies, however, SMEs are generally concentrated in labour-intensive, low-technology and traditional activities, with low levels of productivity and poor quality products. There is little or no technological dynamism in this sector, and few enterprises graduate into larger enterprises. SMEs are unlikely to be part of an integrated manufacturing sector and this is the situation in the Yemen. Large enterprises are virtually isolated from medium and small-scale enterprises – mainly because of weak infrastructure, information shortages and weak contractual - enforcement mechanisms.[59]

SMEs in Yemen suffer from well documented problems – limited managerial expertise, imperfect capital markets, limited or non-existent technical and financial assistance, imperfect markets for the purchase of inputs and perhaps for the sale of output. SMEs are very vulnerable to greater competition from imports and have limited potential for growth. And although ease of entry and exit may well be good for competition, a combination of market failures and policy-induced distortions may well prevent the emergence of a dynamic, enterprising and innovative SME sector.

In addition to the internal dynamics of enterprise performance, productivity has been influenced by the incentive structure, at the heart of which is the trade regime. The development of the manufacturing sector, with its low productivity and poor growth performance, has been affected by trade liberalization and the economic, financial and administrative reform programme. The policy of protecting local production has been gradually relaxed, the role of the public industrial sector has been reduced, and a number of public enterprises have either been privatized or are awaiting the government's decision regarding their future.

9.3.1 Policies affecting the manufacturing sector

Yemen has thus far focused on the mining and petroleum sectors, but had no coherent strategy to develop the manufacturing sector. It has certainly had declared goals but they but has not backed these with implementation mechanisms or the necessary funding – nor, apart from policies on trade or non-tariff barriers, has it paid sufficient attention to investment laws or labour market regulations or had a proper infrastructure to launch the sector and attract more resources. Policies and incentives on their own are not sufficient. Faced with market failures, the GoY needs to create the necessary institutions for successful industrialization (Lall, 1991).

[58] *Industrial Development Report 2004*, UNIDO Vienna.
[59] For substantiation of this claim about the overall business environment, see the recent World Bank publication on doing business in Yemen.

Investment policies

In 1991 the government introduced a new investment law that provided incentives for investors. It created the General Authority for Investment (GAI) to operate as a one-stop shop for investors – implementing the law and managing the process in terms of legislation, facilitation and promotion. From time to time, the promotion section issues a list of investment projects that appear to be feasible.

Although investment policies and the investment environment have improved, there are still many difficulties: a lack of financial incentives and support; the lack of administrative services; and the inappropriate and inefficient judicial system. Many private sector investors complain about the procedures and long delays in court cases and the incomplete implementation of regulations. Local and foreign investors have to deal with corruption, land disputes, uncertain property rights and inefficient judicial and financial systems.

In 1998, the Foreign Investment Advisory Service (FIAS) reviewed the investment law and said that foreign investors saw it as "generally acceptable for an average developing country," but with certain major weaknesses.
In June 2002 the Parliament replaced it with a new law which changed the treatment of 'protected' sectors, replaced licensing with simplified registration procedures and reduced the GIA's regulatory functions.

Taxation

There have been some important improvements in tax administration, such as the introduction of a new taxpayer identification system and computerized taxpayer registration, and the adoption of self-assessment procedures. But since most SMEs do not keep accounting records the government imposes taxes arbitrarily. SMEs feel that taxes are not proportionate to their profits, and that tax administration officials apply assessment criteria inconsistently. This has discouraged new businesses and tempted formal ones practice informal operations or underground activities in order to evade increased tax assessments. The small business sector is one of the most important sources of employment but has received little support from the state – partly because it is seen as tax dodging and anti-modern.

Land

Here the problem is the absence of an effective means of identifying, securing and defending titles to land. A range of land-ownership systems coexist with one another, including private land owned under modern and customary titles.

In most low income countries, the main source of collateral for credit is property. But Banks are seldom engaged in mortgage lending because land titles are hard to establish and enforce and because courts are very reluctant to order eviction of defaulters. Small entrepreneurs without collateral have to use their own savings or borrow from the family.

9.3.2 Manufactured exports performance

The manufacturing sector's contribution to exports has been marginal – less than 1% of merchandise exports and 26% of non-oil merchandise exports. In 2003, they amounted to just $41 million. Over the period 1998-2003 non-oil exports, including agricultural, fisheries and manufacturing products, averaged 8% of total exports.

A 2002 survey covering 263 manufacturing firms involved in export provides several conclusions regarding export performance.[60] A majority of small and medium-sized enterprises said that a significant obstacle to exporting was weak or inadequate infrastructure, though large firms do not consider this a major constraint. The smaller enterprises, unlike the larger ones were also concerned about the high cost of raw materials. This difference arises because large firms are more likely to be vertically integrated and able to set up their own logistics.

Large firms can secure funding while small and medium scale firms regard this as a major obstacle. This is consistent with the earlier description of commercial bank lending policies, which favour prominent and well-established entrepreneurs.

The size of the firms, both respect to with employment and capital, seems to be of importance. Strong performers in the export market are concentrated in firms that employ 50 persons or more. Firms which employ 11-20 are the least involved in exporting. SMEs, which dominate the manufacturing sector, make very little contribution to exports. Many medium-scale manufacturers expressed a desire to engage in exporting but they did not know how to access government technical and logistical support. In addition, they appear to have no associations through which they could collectively pursue their objectives.

Weak and medium performers saw the business environment and investment regulations as a major constraints, though strong performers did not perceive this as a major problem. This is because large firms are able to bypass cumbersome official procedures by resorting to informal networks, while small and medium-scale manufacturers unable to break the bureaucratic cycle. Obstacles might not be embedded in the enacted regulations, but arise as a result of the application of law. In general, unlike the low and medium performers the strong export performers do not have problems accessing export finance.

Exporting firms thus seem to suffer more from domestic obstacles than from external constraints. This is because most Yemeni exports are primary commodities based more on comparative advantage than on dynamic competitive advantage. The same problems that burden the manufacturing sector limit the potential to boost exports. Therefore, dealing with the manufacturing sector's problems will to some extent remove the obstacles that hamper penetration of export markets.

[60] Abdullah Sanafi, 2002, "*Export Performance in Productive Enterprise in Yemen*" (*Arabic*), the Economic Journal of Economics and Business College (Sana'a University), Sept. 2002 – March 2003, pp. 346-392.

9.3.3 Challenges to promoting the manufacturing sector

Development of the manufacturing sector requires an environment that encourages the exploitation of new competitive advantages. It is essential therefore to establish appropriate linkages with the rapidly changing global environment.

It will also be important to establish linkages between SMEs and large firms – to further integrate SMEs into the economy while allowing the large firms to reduce unit costs and hence become more competitive. This could be achieved by creating institutions through which the two groups can interact, and by creating a data bank to identify potential areas for mutual cooperation.

Among the constraints to competitiveness as identified by UNIDO 2004, are the low availability of business development support (BDS) services – such as operational industrial labour market information systems, and local competitive capacities in the areas of marketing, maintenance and quality control – as well as the limited availability of industrial parks.

Lall et al. (2004) argue that enterprises do not build capacities in isolation. They interact constantly with other enterprises, equipment manufacturers, technology and R&D institutions and international sources of knowledge. Thus, capacity building is a collective process, both within and outside the enterprise. It is therefore important for Yemen to create this web of networks.

Moreover, the bedrock of industrial success is formed by domestic enterprises and domestic capabilities. It is vital therefore to build strong domestic capabilities. FDI can provide additional resources and/or missing factors but it cannot substitute for a weak and inefficient productive base. Nowadays, multinational corporations have become more selective and want to invest in higher quality activities – in countries that have strong suppliers, active technology institutions, capable workers and managers and well-managed infrastructure.

Yemen has devoted little attention to quality and standards. For example, there are few proper quality-control assurance procedures and a large number of substandard imported goods are finding their way into the country, either through direct trade or smuggling. Some manufacturers argue that adhering to domestic quality standards is sometimes costly – and constitutes a waste of resources as the market is flooded with low-quality goods. This discourages many manufacturers from adhering to high standards – with adverse implications for exports.

Among the other issues that affect manufacturing-sector performance is the source of financing. Many small entrepreneurs that are unable to provide collateral have to create small plants that require minimal capital and rely on family members and relatives. Though this dynamic is useful, theoretically, in generating employment and competitive sectors, it means that the character of new business is dictated not by market needs but rather by capital constraints.

According to the IMF (2003), the main private clients of the banking system are the large family-owned enterprises that dominate the formal business sector. Often they are also the main bank shareholders. Banks are reluctant to lend outside of this limited group of companies because of the difficulties they face in ensuring repayment or exercising rights over collateral. Lenders see little point in taking defaulters to court because borrowers unwilling to pay can defer judgment almost indefinitely, or avoid enforcement.

In order to overcome the lack of financing, the government has created several specialized credit institutions. These often base their lending decisions less on sound economic analysis and more on social and informal networks. Socio-political factors have played an important role in the allocation of resources, which may partly explain the collapse of the industrial development bank founded in the early 1990s to promote SMEs.

9.4 Conclusions

Yemen needs to build a sound macroeconomic base, supplemented by more targeted micro-policies for promoting technical and entrepreneurial skills, technological competence and home-grown competitive capacity, as well as appropriate incentives designed to attain sustained productivity growth, export diversification and the development of the manufacturing industry.
Most of the technical assistance should go to small enterprises while for medium-sized enterprises the priority should be to build linkages to facilitate the dissemination of relevant knowledge and provide a channel through which enterprises might communicate their concerns.

If there is to be an increase in export growth Yemen needs an Export Development Bank and a Loan Guarantee Agency. It should also stimulate the existing Export Promotion Council. Yemen should also create competitiveness within its own industries in order to foster an enabling and equal footing environment for all investors. The government might consider establishing competitiveness councils.

In order to overcome the skilled labour problem, the government will need to encourage management and business training based on intensive consultation with the private sector.

Finally, the GoY needs to give enterprises incentive targets, based say on the level of exports or the number of jobs created. But do so the state must also enhance its own capabilities, and commit itself to the achievement of its development and poverty alleviation objectives.

Chapter Ten
Summary of policy considerations

This report presents a consistent set of recommendations for economic policies that will promote long-term development, enhance growth and reduce poverty.

The report concludes that the major macroeconomic constraint to economic development in Yemen is poor investment performance. It also points out that although development requires macroeconomic stability this point has been overemphasized. There report argues therefore that macroeconomic policy in general should be directed to promoting economic growth, while maintaining reasonable macroeconomic stability.

It proposes an active economic role for the state. In order to achieve the MDGs goals on poverty reduction the state should aim to stimulate growth and employment – mainly through public investment and allocating credit. Public investment, financed through tax revenues and mobilizing domestic resources can raise the productivity of capital and labour, while also boosting private investment and enhancing growth. However, the report also emphasizes that a stable flow of ODA will also be essential for achieving the MDG poverty goal.

To boost domestic savings and private investment the reports points to the need to develop the financial sector. And to compensate for oil exhaustion it recommends macroeconomic policies to promote investment in the non-oil sector.

It recommends the adoption of more flexible monetary policies, which can specifically lower real rates of interest and it recommends regulating the capital account in order to stem capital flight and redirect the financial assets of commercial banks towards domestic investment. Measures can then be taken to render the exchange rate more competitive.

To mitigate the inflationary impact of expansionary fiscal and monetary policies, it will, however, be necessary to carry out fundamental reforms in the banking sector and the operations of the Ministry of Finance as well as in the macroeconomic policy mix. This will mean, for example, moving resources to productive sectors, particularly those with the greatest employment-generation and import-substitution potential.

Finally, growth in Yemen will be more equitable and more pro-poor if it is directed towards rural areas. The report offers a comprehensive set of inter-related policy recommendations that can stimulate agricultural prosperity and augment rural livelihoods.

10.1 Providing fiscal space for development

Increasing tax and non-tax revenues and building a system of public finance based on domestic non-oil revenue:

The Government of Yemen has to plan for long-term development based on predictable flows of 'permanent income'. At present, however most income comes from oil. It will therefore have to use oil revenues to accumulate permanent productive

wealth – financing extensive public investment and build a financial system that will adequately fund private investment. Later this will compensate for any future decline in oil production.

Such productive wealth can provide a level of tax income that could eventually replace depleted oil revenues. In this connection, it is essential to draw a coherent Tax Policy Long term Master Plan to raise non-oil revenues in an equitable way. The plan should start by instituting a General Sales Tax (GST) that would raise as much as 5% of GDP in new revenues. There is a similar need for introducing an excise tax on petroleum, as well as eliminating many customs exemptions and increasing the level of taxation of qat. A land tax on large farm holdings, as well as a tax on urban real estate and petroleum should also be considered.

Improvements in tax policy and administration could increase revenues by 6%-9% of GDP. Moreover, the government could still modestly increase tariff revenues, by 1%-1.5% of GDP, through strengthening customs administration, combating smuggling and reducing exemptions.

Borrowing from domestic sources

Sustaining Yemen's development means financing a significantly higher proportion of public expenditures through domestic resources. Distributional considerations aside, domestic borrowing adds to gross investment and to growth, if it does not substitute for resources available for private investment and if the returns from public investment are high enough to justify the borrowing costs.

Creating Fiscal Space

This can be achieved through expenditure-reduction and expenditure-switching policies. For example:

- Reduce military expenditures from over 7% of GDP to less than 4%.
- Gradually phase out explicit subsidies and earmark the resulting funds for investment to improve agricultural productivity.
- Reinforce the rise in development expenditures, financed from ODA, to stimulate growth and generate more public revenues.
- Maintain a rough balance between expenditures and revenues at 20%-25% of GDP by combining expenditure-reduction policies with more aggressive efforts to raise non-oil revenue and keeping deficits at under 10% of GDP.

Budget reform

The government should ensure that in the short and middle term budget goals and economic policies are compatible. This will mean reviewing budget goals, developing more objective criteria for public expenditure allocation, implementing effective methods to collect data and analysis, designing appropriate criteria for evaluation, implementing existing laws, delegating budget implementation to the line ministries and enforcing budget monitoring and evaluation.

Official development assistance

Official development assistance (ODA) can play a useful role in compensating for the decline in oil revenues and, thereby, making the flow of government revenue more predictable. But it should be used to enhance the size and structure of Yemen's productive base – financing essential public investment in economic and social infrastructure and building up a viable, resource-mobilizing domestic financial system.

An ODA-based stabilization fund can also eliminate the need to hold large pools of resources in a surplus oil fund. ODA could smooth out the inevitable fluctuations in oil prices to make government revenues more predictable.

To reach the goal of halving income poverty by 2015 Yemen will require an annual ODA flow of approximately $75 per capita. As Yemen receives an average of $15-$20 per capita in ODA annually, this implies that ODA to Yemen should increase dramatically – significantly above the 2003 level of 3.5% of GDP.

10.2 Financial sector development

Monetary policy should concentrate in providing liquidity, and relatively low rates of interest, both to the private and public sectors. Hence the government should play a more pro-active role in encouraging lending that will promote long-term economic growth, employment generation and poverty reduction – to enable commercial banks to play a healthy intermediary role in mobilizing domestic savings and channelling them to productive private investment.

This implies that the government will have to provide various incentives in order to:

- Induce commercial banks to provide more long-term loans
- Direct more credit to poor households and provide broad access to credit from banks, especially in rural areas, where the great majority of low-income households are located.
- Mandate loans to priority sectors. This helps direct more credit to agriculture, and to industrial or service sectors that are employment intensive, in particular medium-sized and small industries.
- Rely on incentive-based measures instead of specifying differential asset-based reserve requirements, in which banks could hold lower reserves for providing loans to priority sectors.
- Provide support to banks to pool and underwrite small loans in order to reduce risk. The Central Bank could draw on part of its large stock of foreign exchange reserves to open a special discount window for banks that agree to lend to priority sectors.

The government also needs to require commercial banks to diversify a certain percentage of their lending, and extend their operations to rural areas – failing which they would have to lend money to specific government agencies at very low interest. The Central Bank of Yemen (CBY) would list a set of employment-generating and com-

mercially viable investments for which there would be reserve requirement lower than for the deposits invested in speculation, or treasury bills, and certificates of deposits.

The CBY can also take steps to create liquidity- and risk-sharing institutions for loans to small businesses that are commercially viable and committed to generating employment, but do not have adequate access to the credit market. This can be promoted by providing financial and administrative support for asset-backed securities, which would give loans to small businesses and other employment-intensive activities. The CBY can bundle these investments and sell them as securities on the open market. The CBY can open a special discount window facility to offer credit, guarantee or discount facilities to institutions that are on-lending to firms and co-operatives engaged in commercially viable employment-intensive activities. In addition, the CBY can use some of its accumulated foreign exchange surplus for various directed credit programmes.

Finally, the government needs to improve the legal certainty and enforceability of contracts.

10.3 Monetary and exchange-rate policies

Exchange rates should not be used exclusively as instruments for inflation targeting. Appreciated exchange rates might be an important instrument in the combat against inflation, but they are more relevant as instruments to promote export competitiveness and import substitution. It is not advisable therefore to completely deregulate foreign exchange markets. Instead, in order to promote import substitution and export competitiveness, the government should consider capital controls and other measures that allow multiple exchange rates. Overall, monetary and exchange policies should boost investment and employment – and not exacerbate food-price inflation. This can be accomplished by the following approaches:

A more flexible approach to exchange-rate management and a special fund for human capital development

To resolve the problem of food-price inflation and the gradual overvaluation of the currency, the government should take a two-pronged approach. In the short run, the government needs to adopt a food-price stabilization programmes – to temporarily delink food prices from international prices. This will free the CBY to adopt a more flexible approach to exchange rate management, to prevent overvaluation of the exchange rate, without fear of food-price inflation. However, the long-term solution is to increase investment in physical and human capital, enhance productive capacities and raise the productivity of labour particularly in the agricultural sector. For this purpose, the Central Bank should use its foreign exchange reserves to set up specialized investment funding agencies to help increase private-sector investment in human capital.

Flexible monetary policy

Monetary policy should become more flexible, geared not just to price stability but also to growth and employment goals. Adopting a tight monetary policy and reducing

inflation below 5% is likely to draw the economy into a 'stabilization trap'. Instead the government should aim for lower interest rates to stimulate greater investment, in particular in the agricultural sector to help break the food-supply bottleneck.

The main causes of cost-push inflation in Yemen have been supply-side factors, such as droughts, and oil price fluctuations. At present the economy can absorb large injections of funds without overheating – given widespread unemployment and underemployment. It is also important to lower the benchmark interest rates, whose current high levels deter private investment, and reduce the spread between the deposit and lending rates of commercial banks.

Regulating the capital account

The CBY should regulate the capital account in order to dampen capital flight. Such regulations should focus on discouraging commercial banks from investing their financial assets abroad. At present savings have been used, in effect, to finance investment in other countries. The appropriate option is to impose restrictions on capital account convertibility and restrict commercial bank investment abroad.

10.4 Policies to promote savings, investment and growth

Injecting new resources into the Yemeni economy

Food-stabilization programmes can combat inflation in the short run. But in the long run, the surest means of containing inflation is to scale up investment in public infrastructure, physical capital and human skills. This will strengthen the economy's 'absorptive capacity'. Meanwhile for the private sector to grow, it has to enjoy real access to essential infrastructure, such as electricity, roads and ports, credit, and an adequate supply of educated, trained workers. Direct assistance which would ensure private sector's access to international markets based on a competitive exchange rate must also be available. Larger aid flows should also be phased-in to finance productive investment, especially in the tradable goods sector.

Creating an investment fund and adopting expansionary investment-focused fiscal policies

The Central Bank could redirect some of its foreign exchange reserves to an investment fund that would offer higher returns than foreign government securities. It could also discourage commercial banks from investing abroad and, instead, encourage them to lend for domestic investment. Banks could also be redirected towards lending for private investment by lowering interest rates on government securities. Monetary policies, in general, have to be more accommodating towards expansionary, investment-focused fiscal policies.

Fiscal policy also should be geared towards spending on infrastructure and social safety nets. Redistribution of the gains from the oil boom might have additional positive effects on economic growth. Capital expenditure is vital in transforming the economy from a pure *rentier* economy to a productive one that relies on non-rental revenues.

Taxes should increase to reduce inflationary pressure and stabilize the economy. This can also generate the funds needed for expenditure on infrastructure and human capital. When oil revenues dwindle, however, taxes will have to fall to offset the effect on output and income. But over time, this accumulated capital expenditure will generate enough income to compensate for the fall in oil revenue and provide a sustainable base for conventional revenue sources.

10.5 The employment nexus between growth and poverty reduction

In order to provide widespread remunerative employment, Yemen's economy needs to grow more rapidly and spread the benefits more broadly. This will mean scaling-up both public and private investment and diversifying the financing for such investment from various sources: oil revenues, increased tax revenues on non-oil incomes, reduced international reserves, debt relief and substantially increased ODA. This report recommends a four-part strategy:

1. Growth-oriented economic policies

Yemen needs to channel oil revenues into widespread public investment in basic economic and social infrastructure. Meanwhile monetary policies need to target employment creation as well as keep inflation down to say 10%-15% per year. In order to maintain the international competitiveness of non-oil exports, the Government should also seek to depreciate the exchange rate further. Such a measure should be combined with restrictions on capital mobility, particularly within the context of more expansionary fiscal and monetary policies.

2. Diversifying the economy

Yemen is caught in an unemployment vice because of modest economic growth and rapid growth of its labour force. This will imply more pro-active sectoral credit policies, especially for employment intensive activities whether in agriculture, manufacturing or services.

In agriculture, diversification based on rising productivity and sound water management should include substitution of qat by other agricultural commodities, such as coffee, fruits and vegetables, which have strong export potential. And for fisheries it will be important to upgrade infrastructure for fish handling, storage and transport to ensure adequate testing, certification and accreditation. Improvements are also needed in fish farming methods. Domestic processing of fish could generate substantial additional income but awaits the commitment of investment resources.

Though currently small, the manufacturing sector could create productive and decent-paying employment principally through medium-sized and large enterprises. Pro-poor growth will mean encouraging investment, changing the nature of industrial activities, and alleviating the scarcity of skilled workers. It would also be useful to adopt an import substitution policy in food and beverages.

The manufacturing sector which is still small will need immediate technical assistance and the medium-sized enterprises need to build stronger linkages with the rest of the economy. The service sector could also provide much more employment particularly for tourism and port services. Sectors that employ significant numbers of paid employees, namely, manufacturing, trade, hotels and restaurants, will have to grow more rapidly.

3. Making small-scale interventions with a poverty-reduction focus

This could involve labour-intensive public works, such as for rural roads, wells or irrigation works, which can be directed to poorer regions of the country. Commercial banks will have to be given incentives to expand coverage of their financial services to poorer regions or social groups. This should become an integral component of the regular financial services of banks, particularly in rural areas.

4. Promoting of a more conducive business environment

Simplifying licensing, fees and taxes are part of this effort. Reducing administrative procedures, official harassment and corruption is another important requirement. Economic growth can be stimulated from below by enabling small enterprises to expand and provide more decent-paying jobs.

10.6 Trade and industrial development

Yemen requires active and strong government involvement in trade and industry, as follows:

Capacity building in trade negotiations and trade policy formulation

Human and institutional capacity building is needed to enable Yemen to benefit from the Great Arab Free Trade Area (GAFTA) and from special and preferential treatment for least developed countries. Without adequate technically qualified and experienced personnel, Yemen may not reach the best outcomes when negotiating such agreements. The establishment of a WTO Accession Unit under the auspices of the Ministry of Industry and Trade is a step in this direction.

Since there is a general lack of awareness of WTO issues, the GoY will have to establish a number of enquiry points to deal with questions regarding services, standards, and IPR. It will also probably need a permanent mission in Geneva.

All such new entities will require additional funds and new institutional mechanisms to take decisions at the political level. Meanwhile the systems of reporting, monitoring and evaluation have to be developed.

Concerted export- promotion

A concerted promotion programme is needed to stimulate demand for non-oil com-

modity exports, while diversifying the basket of such exports. This will require a sound macroeconomic base for competitiveness supplemented by policies for promoting technical and entrepreneurial skills, technological competence and home-grown competitive capacity – as well as appropriate incentives designed to attain sustained productivity growth, export diversification and the development of the manufacturing industry.

Yemen also needs to create an export development bank and a loan guarantee agency, and to stimulate its existing Export Promotion Council. While trade liberalization is a forgone conclusion, Yemen needs to encourage competitiveness within its own industries—for example, through competitiveness councils. Finally, to disperse the benefits of growth the government needs to set incentive targets, such as the level of exports or the number of jobs created and their location. Needless to say, this cannot be accomplished in the absence of appropriate infrastructure.

Upgrading institutions to join the GCC

The Gulf Cooperation Council is a major trading partner, especially on the import side. Pursuing a free trade area with GCC members will be of benefit to Yemen, and there could be gains from increased foreign direct investment coming from residents of the GCC or from Yemenis abroad. Yemen may also be able to act as a sea hub for goods entering the GCC.

Improving the potential of service exports

These include transport, tourism, and other services that have not been fully utilized. The GoY should continue its efforts to negotiate better terms with international investors in tourism while upgrading the domestic capacity to provide more value-added.

Non-conventional options for enhancing trade and investment

Yemen should, for example, opt for offset-agreements where the purchase of weapons from a developed country is complemented by direct foreign investment in civil industries.

Production of export-oriented goods and services

There are a number of promising sources of export-orientated production, such as tourism, fisheries and manufacturing, and commercial service activities located in duty-free zones. But these are hampered by poor infrastructure and institutional deficiencies. Yemen should intensify its efforts to improve the investment climate, to implement vigorous strategies of investment promotion and to meet investors' reasonable requirements in terms of infrastructure.

Upgrading free trade zones

In the short to medium term, it may be difficult to promote investment and trade in Yemen without establishing well functioning free trade zones. Hence, it is recommended that consideration be given to the development of additional zones and alleviating the problems in the established zone.

Participation in regional value chains

Yemen will have to target specific products and markets (such as leather products and handicrafts) and focus on upgrading certain exports (such as natural honey and coffee). This will require more sophisticated marketing skills. For example, since all exporters of animal and vegetable products have to meet the sanitary standards of industrial countries, the Government should attach high priority to upgrading its conformity assessment procedures – including testing, certification and accreditation.

Industrial policy and management

International competitiveness in the manufacturing sector will be determined by the ability to apply modern industrial management practices to production and organization. There is also a need to establish linkages between SMEs and large firms. This could be achieved by creating linkage institutions by establishing a data bank to identify potential areas for mutual cooperation between the two groups.

Enterprises also need better access to business development support services – such as operational Industrial Labour Market Information Systems, and those related to marketing, maintenance, and quality control – because it is often too expensive for individual plants to establish such services within their own enterprises.

An industrial development policy should be related to the promotion of standards and quality assurance to achieve competitiveness of industrial products in international and local markets.

It is also important to change the structure of incentives to encourage investment in productive sectors and develop the formal economy. A clear and coherent industrial development strategy, formulated in consultation with the domestic private sector, would create a more predictable and enabling environment.

Financing industrial development

In order to overcome the lack of financing, the Yemeni government has created several specialized credit institutions. However, decisions concerning lending within these institutions are not always based on sound economic analysis but rather on social and informal networks. Yemen needs a sustainable system for financing industrial development.

Reforms in education and training

More management and business training is needed to overcome the skilled labour problem. In order for this to succeed, there should be intensive consultation with the private sector. Enterprises should also be encouraged to invest in in-house training.

Supply-side policies

The main constraints on export performance are on the supply side. As the Yemen becomes more fully integrated into the world economy it will need to identify and target new products and markets such as leather products and handicrafts, while upgrading others such as natural honey and coffee. This will require more sophisticated marketing skills, in addition to testing, certification and accreditation. Improving exports will also depend on focusing resources on the Aden free trade zone in order to ensure its success as a prototype for other zones. Greater regional economic cooperation, based on developing common or shared infrastructural facilities, could be of notable benefit. In this regard, the country should fully exploit the opportunities provided by its strategically located port facilities.

Enhance business support services

Much of the success in trade and industrial development will depend on concentrated public investment in infrastructure, human capital and business support services. Market forces alone are unlikely to foster the necessary structural transformation, so the state will have to play a crucial role.

Institutions and regulatory framework

Yemen will need an appropriate and enforceable regulatory frameworks, along with viable financial institutions, educational and training institutions, and publicly supported research and development.

10.7 Agricultural development and rural livelihoods

These policy options are based upon a need for redistributive public support, in the form of financial transfers, to facilitate a pro-poor pattern of public-goods provision. The Yemeni government must substantially increase its public spending on the rural economy, as follows:

Ensure greater public investment in rural areas

More sustainable resource management systems within the rural economy will need greater investment in a range of public goods, such as storage facilities, transportation networks, and water preservation technologies.

Build an extensive rural financial system

Of equal importance is an extensive rural financial system. This will need small-scale initiatives, such as rotating savings and credit clubs and microfinance. More important, however, are financial institutions that can mobilize substantial savings and allocate them effectively towards productive investment. The poorer small landholding farmers need financial resources if they are to shift to more sustainable resource management systems.

Provide better extension services

Boosting agricultural productivity will require better extension services, such as improving cropping patterns and the management of natural resources,. Of special importance are marketing services so that farmers can move into higher value crops, identify the best markets and be able to store and transport their crops. But it they are to do so, the government will have to provide them with some form of income support during the difficult period of transition.

Stimulate agro-industrial activities

Agricultural prosperity should provide the foundation for a more vibrant non-farm economy that will allow poorer farmers to diversify their livelihoods. In order to facilitate this transition, the Government can help provide business-oriented advisory services and eliminate bureaucratic barriers to forming micro- and small enterprises.

Provide better access to land and water

Providing broader access to water, especially for small farmers will mean reinstating some traditional water-control systems as well as vesting in communities the rights over water use in irrigated areas. At the same time the government could also invest in water-saving technologies. And they could also promote conservation by removing subsidies to rich farmers and instituting water taxes. In the long run, however, more efficient use of scarce water resources will mean diversifying away from agriculture.

Finally the government needs to address land rights. The first step is registering both land and sharecropping contracts. Then institutional means, such as cooperatives, can be identified to begin consolidating fragmented holdings into larger productive units. Capacity building will also be needed to give poorer small farmers greater access to local government institutions.

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Annex 1

Notes on the Comparison of the Household Budget Survey (1998) and National Poverty Survey (1999)

In this report we have attempted to combine the information in the Household Budget Survey (HBS) 1998 and the National Poverty Survey (NPS) 1999 to examine the poverty situation in Yemen. Both surveys were conducted by the Central Statistical Organization, Ministry of Planning and Development, Republic of Yemen. The HBS 98 has been the main source of data for poverty measurement and analysis. The reason is that NPS 99, despite its much larger sample size and more detailed questionnaire, does not take into account the seasonality element in household expenditure. If the interest is in measuring absolute poverty in relation to a particular poverty line – a measure which is sensitive to the accuracy of measurement of consumption levels – the exclusion of seasonal elements in the NPS 99 data can lead to serious errors. Hence the preference for the use of the HBS 98 for poverty analysis by both the Government of Yemen (GoY) and the World Bank (see, e.g., GoY 2002 and World Bank 2002).

Nevertheless, given the much larger sample size of NPS 99, which implies a substantial reduction in sampling error, particularly with regard to disaggregated regional poverty profiles, and the richness of its questionnaire, this practice has meant a considerable loss of valuable information contained in NPS 99. In this appendix we have tried to utilize the information in NPS 99 to examine the poverty situation in Yemen, by attempting a mapping between the poor as measured in the NIES 98 survey and the low income strata in NPS 99.

On the basis of the HBS 98 data, and the regional poverty lines defined by the government of Yemen, it is estimated that about 41.8% of the population fall below the poverty line (World Bank 2002).[61] It may be therefore plausible to assume that the bottom 40% of expenditure groups in NPS 99 should represent the poor fairly accurately. This, however, is only true under certain assumptions which need to be spelled out explicitly. First, it assumes that the seasonal element of consumption expenditure does not substantially alter the consumption ranking of the individuals between the two surveys, at least relative to the poverty line.[62] It also assumes that there has not occurred a substantial change in the status of the poor between the two surveys, which is plausible given the closeness of the timing of the two surveys.

[61] Throughout this appendix NIES 98 poverty estimates refer to poverty as estimated with reference to what the World Bank (2000) refers to as the lower poverty line, as distinct from the food poverty line and the upper poverty line.

[62] It should be noted that despite the large differences in income distribution between the two surveys, as for example indicated by the gini coefficient of consumption expenditure, the average per capita consumption of the 4th decile of NPS 99 is remarkably close to the same figure for NIES 98, about 3000 Rials per month as compared to 2896 Rials respectively.

A more problematic issue relates to the variations in poverty lines across regions, which implies that the 41.8% headcount poverty estimated on the basis of the HBS 98, does not necessarily refer to the bottom 41.8% consumption groups ranked in nominal terms. The coefficient of variation of the regional poverty lines used for the measurement of poverty in Yemen is about 7% for the urban areas and 8% for the rural areas (based on, World Bank 2002, page 10). Hence, a person that may be counted as poor, say in Sana'a city, may have a higher average consumption in nominal terms as compared to a person who is just above the poverty line but lives in a less expensive region. To get round this problem it would be necessary to make a mapping between the two surveys on a region by region basis. However, given the possibly large sampling errors in regional estimates arising from the small size of the HBS 98, it is not clear whether such extra effort would improve the accuracy of the estimates. The possible gains in accuracy resulting from accounting for regional variations in poverty lines may be more than neutralized by the potentially large sampling errors in regional poverty estimates based on the NIES 98 survey.

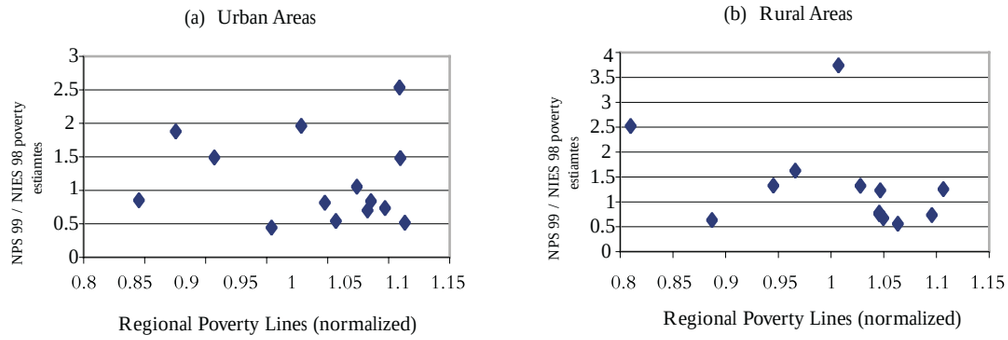
With these caveats in mind, one may proceed to investigate the profile of the bottom 40% consumption groups in the NPS 99 survey as a plausible characterization of the conditions of the poor in Yemen. As the last point in the above paragraph indicates, this procedure can imply the exclusion of some of the households that are marginally below the poverty line in areas where the cost of living is above average, such as the Sana'a city, and the inclusion of some cases in relatively lower cost areas that are marginally above the line. However, given the large population of the poor, this should not significantly alter the average characteristics of the poor as measured by the bottom 40% in the NPS 99 survey at the national level. In fact, it is our contention that given the small sample size of the NIES 98 survey, sampling error poses much more serious problems at a disaggregated regional level, than the neglect of the variations in regional poverty lines involved in the method adopted here. This is in fact a testable proposition which can be verified on the basis of the data.

To verify this proposition we have estimated regional headcount poverty levels on the basis of NPS 99 by selecting the bottom 40% of the population on the basis of their consumption levels and by counting the number of the poor in each region in this subpopulation. If the main source of error in this procedure as compared to existing poverty measures based on NIES 98 is the neglect of the variations in the regional poverty lines, then we should be able to observe a close and negative relationship between the NPS/NIES ratio of regional poverty estimates and the regional poverty lines. In other words, the NPS 99 headcount measures, as estimated here, should underestimate poverty in regions with relatively higher poverty lines. On the other hand, if the main difference between the two estimates is the sampling errors resulting from small regional sample sizes in NIES 98, we should observe wide variations in the regional headcount NPS/NIES ratios without any discernable trends *vis a vis* the regional poverty lines.[63]

[63] There are of course other non-sampling sources of discrepancy between the two surveys, e.g. those resulting from definitional differences in the two surveys, differences in recall periods, and the neglect of the seasonal element in the NPS 99 survey. However, there is no reason why such non-sampling sources of discrepancy between the two surveys should lead to such large region specific variations in poverty measurement.

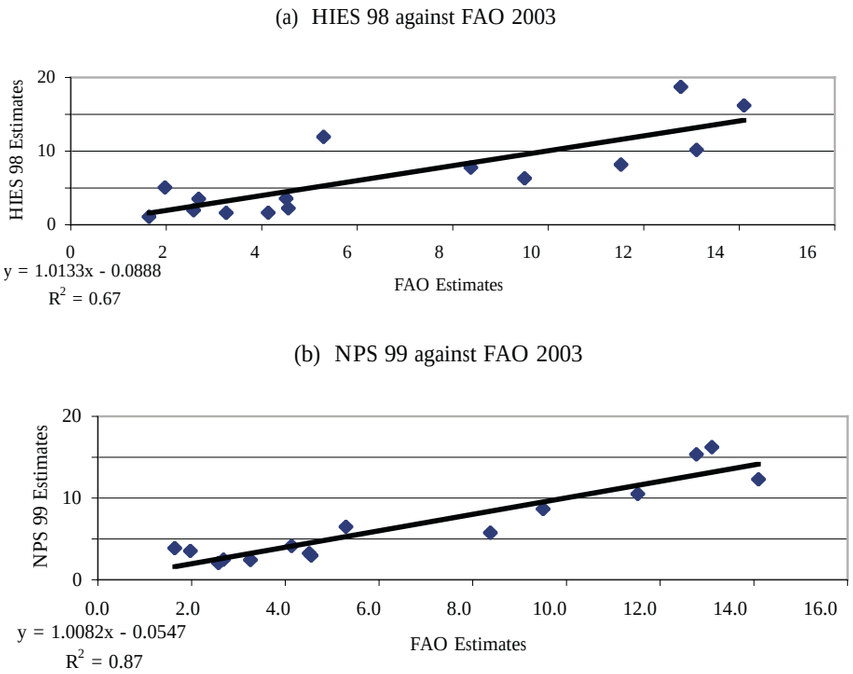
The results of this exercise are reported in Figure A.1, panels (a) and (b) for the urban and rural areas respectively. As can be seen, there are wide variations in regional poverty estimates between the two surveys, without any discernible relationship between such variations and the regional poverty lines. Given that the sample size of the NPS 99 is almost four times higher than the NIES 98 survey, it may be plausible to assume that such variations can be more due to sampling errors in NIES 98.

Figure A.1: Regional Poverty Estimates (NPS 99 / NIES 98), against Regional Poverty Lines



Notes: Regional poverty lines are normalized by setting their mean equal to 1.
Sources: World Bank (2002) for NIES 98 measures, and our calculations for NPS 99 as described in the text.

Figure A.2: Regional Poverty Estimates, HIES 98 and NPS 99 Against FAO 2003 Estimates



Notes: FAO Estimates are based on the proportion of food vulnerable people living in each region.
Sources:HIES 98 headcount poverty estimates based on World Bank 2002, NPS 99 estimates as discussed in the text. FAO Estimates are based on FAO 2004, Table 5.2.

To further substantiate this proposition we have compared the regional poverty estimates from the two surveys with the FAO estimates of the regional distribution of the population which was vulnerable to food insecurity in 2003. The FAO estimates are based on a large sample size of more than 116000 households (as compared to about 50000 in NPS 99, about 13000 NIES 98). AS can be seen from Figure A.2, the NPS 99 regional estimates, based on the bottom 40% income groups, appear to have a much better fit to the FAO results, as compared to the NIES 98 regional poverty estimates. It appears that, at least at the regional level, the NPS 99 survey provides a more representative sample than the NIES 98 survey. This also lends further support to the idea of using the characteristics of the 40% bottom consumption groups in NPS 99 for profiling the conditions of the poor at a disaggregated level.

This of course does not mean that the NIES 98 survey is incompatible with the NPS 99 survey at a more aggregate level. In fact, as shown in Table A.1, once we set the aggregate poverty in the NPS 99 41.8%, the same as the HBS 98 measure, the aggregate poverty measures for the rural and urban areas become very close.

Table 1, Poverty Indicators in Yemen, HIES 98 and NPS 99 Compared

	Total	Rural	Urban	Sample Size
Poverty Line (Y R, per capita, per month)	**3210**	**3215**	**3195**	**..**
Headcount Poverty, HIES 98	41.8	45.0	30.8	13641
Headcount Poverty, NPS 99	41.8*	45.2	32.0	54000

Notes: *Total for NPS 99 is set equal to NIES measure, but the rural and urban components are measured freely.

The conditions of the poor, and particularly the dynamics of poverty, are not of course independent of the conditions of the non-poor, e.g., their location, income levels, savings potential and investment behaviour, etc. The use of the NPS 99 survey, with its relatively large sample size, allows a comparison of the conditions of the poor in conjunction with the characteristics of different strata of non-poor, without unduly reducing the precision of the indicators. In the attached tables we have referred to the bottom 40% of consumption groups in NPS 99 as the poor. In addition we have distinguish two additional strata of non-poor, namely the second 40% of income groups – referred to as the middle income groups – and the top 20% deciles referred to as the rich.

Annex 2

Methodology for Estimating Growth and Investment Requirements for Halving Income Poverty by 2015

With economic growth the mean consumption changes in conjunction with changes in inequality. This means that the growth elasticity of poverty does not remain fixed. Following Kakwani and Son (2005), the methodology presented here takes account of changes in the growth elasticity of poverty over time by focusing on two measures:

- Head-count ratio
- Poverty gap ratio

Since these two measures capture different aspects of poverty, they are not necessarily monotonic functions of each other. Accordingly, there will be different investment requirements.

Suppose r is the annual growth rate of per capita mean consumption. If everyone received exactly the same proportional benefits, the inequality of per capita consumption would not change over time. In practice, everyone may not receive the same proportional benefits from economic growth. Some will receive proportionally greater (or smaller) benefits than others. Economic growth may be called pro-poor (anti-poor), if it is accompanied by a decrease (increase) in inequality. If growth is pro-poor, then the investment required to achieve a given reduction in poverty will be less than that will be if growth is not pro-poor. Suppose 1 % growth rate is accompanied by a change in the Gini index of *k* %. Growth is defined as pro-poor if *k* is negative and, anti-poor if *k* takes a positive value. Growth may be called distribution neutral if k is equal to 0, implying that there is no change in inequality.

The per capita consumption of each household will change over time because of growth rate r and change in the Gini index k that accompanies the growth process. Suppose x_{it} is the per capita consumption of the i^{th} household in year t and μ_t is the per capita mean consumption of all households, we have the relationship:

$$x_{it} = [x_{it-1} + kr(x_{it-1} - \mu_{t-1})](1 + r) \qquad (1)$$

Where:

$$\mu_t = \mu_{t-1}(1 + r) \qquad (2)$$

Applying Kakwani's (1980) theorem 8.4 page 174, it can be easily shown that kr in (1) is equal to percentage change in the Gini index.

Suppose z_i is the per capita poverty line for the i^{th} household, which is fixed overtime, the headcount measure of poverty (the percentage of poor population) in year t will then be given by:

$$H_t = 100 \times \Pr obabilty[x_{it} < z_i]$$

To estimate H_t from the household survey, we define:

$\varsigma_{it} = 100$ if $x_{it} < z_i$

$=0$ if $x_{it} \geq z_i$

Then an estimate of H_t is given by:

$$H_t = \sum_{i=1}^{n} \varsigma_{it} w_i \qquad (3)$$

Where W_i is the population weight attached to the i^{th} sample household.
The poverty gap measure in year t can similarly be obtained as:

$$gap_t = \sum \varsigma_{it} w_i [(z_i - x_{it}) / z_i] \qquad (4)$$

H_t and gap_t will depend on the growth rate in the economy *r* and the pattern of growth as measured by *k*. Thus, we can calculate poverty measures each year for any value of *r* and *k*. Given the values of poverty measures each year, we can easily calculate the poverty elasticity in any year for any measure and for any value of k by substituting $r = 0.01$ in (1).

Assuming that the head-count and poverty gap ratios decline at uniform rate of *m%* per annum between 1990 and 2015, then we have an exponential relationship:

$$P_{2015} = P_{1990} (1+m)^{25} \qquad (5)$$

which gives $m = 0.0275$. In other words, in order to meet the MDG poverty reduction target, the headcount and poverty gap ratios should decline at the annual rate of 2.75%. Dividing 2.75 by the estimated poverty elasticity will immediately give us the growth rates of per capita consumption that would be needed to reduce poverty by half between 1990 and 2015.

Taking a step further, our ultimate objective is to estimate investment required to achieve the MDG of halving poverty by 2015. As such, we need to establish the relationship between the projected growth rate of per capita consumption and the investment rate. Since there exists no direct relationship between growth rate of household consumption and investment rate, we assume that per capita household consumption will on average grow at the same rate as growth of per capita GDP. This assumption will allow us to estimate investment requirements using the growth models of capital accumulation.

Growth depends on human and physical capital. Here we use a simple growth model, which emphasizes only physical capital.[64] This model assumes that the output-capital ratio is constant. In low-income countries such as Yemen, the ratio generally takes a value of around 1/3. Given this assumption, it is obvious that the growth rate of per capita GDP will be equal to the growth rate of capital per person. The growth rate of

[64] See Romer (2001) and "A Global Plan to Achieve the Millennium Development Goals" by the UN Millennium Project (2004).

capital per person depends positively on the gross investment rate as a share of GDP (denoted as *i*) and negatively on the rate of population growth. Then, with a little mathematics, we obtain the relationship:

$$i = 3(g + n + d) \qquad (6)$$

where *g* is the growth rate of per capita consumption, *n* is the growth rate of population and *d* is the rate of depreciation.[65]

Substituting *g* (the required growth rate of per capita household consumption to achieve the MDG poverty reduction target) in equation (6) and with estimated rates of population growth and rate of depreciation given, the required estimates of investment as a share of GDP (*i*) can readily be obtained.

[65] The rate of depreciation can be estimated from $d = i/3 - c$ where *c* is the annual growth rate of fixed capital formation.

Annex 3

Data sources and issues in IMF statistics

The data used in this chapter uses the latest available information, which comes from three publications from the IMF:

- For the period 1990-1996: IMF (2001). Republic of Yemen: Selected issues- April 2001
- For 1997: IMF (2003). Republic of Yemen: Statistical Appendix- December 2, 2003
- For the period 1998-2003 IMF (2005) Republic of Yemen: Statistical Appendix- February 28, 2005

However we found a series of errors and some discrepancies in the statistics used by the IMF. The first table presents the latest data available from IMF Statistics. The second table presents UNDP calculations based on this data.

Table A.2: Republic of Yemen: Summary of central government Finance 1997-2001 (in millions of Yemeni Rials)

Item	1997	1998	1999	2000	2001
1. Total Revenue	274,659	222,620	328,394	583,715	563,401
2. Oil Revenue	188,415	117,772	210,598	376,033	406,167
3. Non oil revenue	86,243	104,848	117,796	207,682	157,234
3.1. Tax revenue	69,570	78,852	85,419	110,990	113,700
3.1.1. Custom duties	25,814	24,121	25,703	29,843	33,789
3.1.2. Tax on goods and services	21,226	24,974	24,419	36,944	27,918
3.1.3. Taxes on income	10,685	13,093	16,389	22,246	46,864
3.1.4. Corporate profit tax	8,318	13,156	14,498	18,444	…
3.2 Non tax revenue	16,673	25,996	32,377	96,692	43,534
GDP at market prices	878,884	793,586	1,102,426	1,539,386	1,608,065

Source IMF Statistical Appendixes 2003 and 2005

Table A.3: Republic of Yemen: Summary of central government Finance 1997-2001 9inpercentage of GDP)

Item	1997	1998	1999	2000	2001
1. Total Revenue	31.3%	28.1%	29.8%	37.9%	35.0%
2. Oil Revenue	21.4%	14.8%	19.1%	24.4%	25.3%
3. Non oil revenue	9.8%	13.2%	10.7%	13.5%	9.8%
3.1. Tax revenue	7.9%	9.9%	7.7%	7.2%	7.1%
3.1.1. Custom duties	2.9%	3.0%	2.3%	1.9%	2.1%
3.1.2. Tax on goods and services	2.4%	3.1%	2.2%	2.4%	1.7%
3.1.3. Taxes on income	1.2%	1.6%	1.5%	1.4%	2.9%
3.1.4. Corporate profit tax	0.9%	1.7%	1.3%	1.2%	…
3.2 Non tax revenue	1.9%	3.3%	2.9%	6.3%	2.7%

Source IMF Statistical Appendixes 2003 and 2005

The figures presented in the second table, which draw on the same original figures, differ from the calculations presented in the IMF Statistical appendixes i.e. the revenue-GDP ratios presented in these appendices are different from those we have calculated. It would be highly unlikely that the ratios presented in the IMF appendices have not been calculated from the data in Table A.2. If this is the case then we assume that the revenue GDP ratios presented by the IMF are wrong because they have been miscalculated.

The details are as follows:

- For 1997 (data from IMF Statistical Appendix 2003), the figures presented for government revenues as% of GDP in tables 18 and 19 do not correspond. It appears that the figures reported in table 19 for 1997 have not been calculated correctly. For instance table 19 calculates total revenue as 32.2% of GDP, while the correct figure presented in table 18 is 31.3% of GDP. A comparison of the figures presented in table 18 and 19 reveals that all the percentages presented in the latter have been miscalculated. There is however no inconsistency on the expenditure side.

- For 1998 (data from IMF Statistical Appendix 2005), the figures presented for government revenues as% of GDP in tables 18 and 19 are both erroneous. In 1998 IMF calculations report total revenues of 26% of GDP and non oil revenue of 12.2% GDP, while UNDP calculations –based on the same original data- demonstrate that the actual figures are 28.1% and 13.2% of GDP. The comparison of UNDP and IMF figures actually show that all the percentage figures for Yemen revenue in 1998 have not been calculated accurately in table 18 and 19 of IMF Statistical Appendix 2005. The figures presented for Yemen's expenditure are correct.

- For 1999 and 2001 (data from IMF Statistical Appendix 2005), Yemen's revenues figures as% of GDP presented in tables 18 and 19 do not match. The figures reported in table 19 for 1999 are incorrect. In 1999 oil revenue represents 19.1% of GDP (table 18 and UNDP calculations), not 19.8% of GDP as stated

in table 19. In 2001 table 19 calculates tax revenue of 7.7% of GDP, while the correct figure (presented in table 18 and UNDP table above) is 7.1% of GDP. The analysis of the calculations presented in table 19 shows that all revenue figures as percentage of GDP are inaccurate for 1999 and 2001.

- For 2000, a different problem arises in the composition of Yemen's revenue. Indeed, while total revenue is 37.9% of GDP in both Yemen Statistical Appendix 2003 and 2005, crude oil exports and non tax revenue reach respectively 19.2% and 2.8% of GDP according to IMF Statistical 2003, they attain respectively 15.7% and 6.3% of GDP in IMF Statistical Appendix 2005. The other categories remain unchanged. The figure of 6.3% of GDP reported for non tax revenue in IMF Statistical Appendix 2005 represents an outlier compared to Yemen's average non tax revenue, which averaged 2.3% of GDP between 1994 and 2003 (if 2000 is eliminated). It is however difficult to determine which figures are correct. On the basis of using the latest information available, we selected the figures presented in IMF Statistical Appendix 2005.

Annex 4

Financial Sector Development, Economic Growth and Poverty Reduction: A Review of Theories and Evidence

The central role of the financial sector in an economy has been succinctly summarised by Stiglitz (1994, p. 23) in the following words:

"Financial markets … can be thought of as the "brain" of the entire economic system, the central locus of decision-making: if they fail, not only will the sector's profit be lower than would otherwise have been, but the performance of the entire economic system may be impaired."

The validity of this statement is borne out by Asia's financial crisis and the resultant economic crisis in the later half of the 1990s. The early development economists saw underdevelopment as primarily a result of market failure. The conventional wisdom was that left to itself, the financial market will not generate sufficient savings needed to lift economic growth rate, nor will it direct investible funds to socially desired sectors. Since underdeveloped countries are capital scarce, it was argued that if left to the market, the interest rate would be exorbitantly high which would deter potential investors. Thus, the policy prescription was to impose *economic* regulation on the financial market in the form of interest rate ceilings and to ration (direct) credit to socially desirable sectors or projects.

While this was the demand-side story of the financial sector, the supply-side had a number of arguments. To begin with, the link between savings and interest rates was suspect due to opposing income and substitution effects. For example, a low interest rate policy should result in low savings due to the substitution effect, but high savings due to the income effect. Thus, the effect of interest rate ceiling on the supply of investible fund is ambiguous. It was argued that the supply of savings could be increased by a process called "forced saving". The main instrument of this process is government budget deficit financed by money creation (Kalecki, 1976). The process of forced saving can work through a number of channels. First, expansionary fiscal-monetary policy increases income via the familiar Keynesian multiplier, which in turn induces savings to rise. Second, the expansionary fiscal-monetary policy will generate inflation. Inflation lowers real return on financial investment (especially when interest rates are administratively controlled), and thereby induces wealth-holders to change their portfolio by investing in physical capital. The resultant rise in capital intensity increases output and hence savings (Tobin, 1965). Inflation also changes income distribution in favour of profit earners with a higher propensity to save (Kaldor, 1955-56). Finally, inflation imposes a tax on real money balances. That is, people hold more money to maintain the real value of their money and thereby transfers resources to the government (Friedman, 1971), which can be used for financing investment.

Thus two dominant features of early policy stance were (a) interest rate ceiling and (b) inflation. The combination of both produced either very low or negative real interest

rates in most developing countries. However, this policy stance came under severe criticisms with the publication of two seminal works by Mckinnon (1973) and Shaw (1973). Financial repression, meaning very low or negative real interest rate, was singled out as a root cause of low savings rate and the underdevelopment of financial sector in developing economies. It has been argued that a repressed financial sector has a number of growth-inhibiting impacts. First, it encourages people to hold their savings in unproductive assets such as real estate, gold and other precious metals. This hampers the growth of the financial sector (the brain of the economic system) due to inadequate demand for financial assets. The "shallow" financial sector itself adversely affects savings rate due to a lack of alternative financial assets and hence reduces financial resources for investment. Second, the low and negative real interest rate encourages potential investors to be indulgent. This results in inefficient investment profile and capital-intensive industrial structure which is out of line with developing countries' factor endowment. Third, the non-market allocation of investible funds encourages rent-seeking and directly unproductive activities when government tries to pick "winners" or priority activities. This, thus sows the seeds of "crony capitalism". Other symptoms of financially repressed economies include segmentation of the financial system into regulated and unregulated segments (a black market characterised by high interest rates).

The Shaw-McKinnon contributions generated a new orthodoxy which argued that financial "deepening" or development is an essential ingredient of the process of capital accumulation as reflected in savings and investment ratios and their productivity. This in turn contributes to economic growth. Financial deepening is best facilitated by a competitive financial system in which interest rates are market determined and in which there is an absence (or at least insignificance) of administratively-driven selective credit allocation. The policy package that follows from this paradigm has become a corner stone of the international financial institutions' (the IMF and the World Bank) adjustment programmes.[66] The financial liberalization paradigm also received considerable boost from the experience of the East Asian economies until doubts began to emerge after the 1997-98 economic crisis.

Critiques of Financial Liberalization Paradigm

The enthusiasm that greeted the financial liberalization hypothesis has turned out to be overly optimistic and somewhat naive. To begin with the empirical foundation of the Shaw-McKinnon paradigm appears less robust than was anticipated - for example, the evidence on the interest rate-savings link is quite ambivalent (see Hossain and Chowdhury, 1996, 1998). Study by Bandiera *et al* (1998: 21) concluded, 'it would be unwise to rely on an increase in savings as the channel through which financial liberalization can be expected to increase growth'.

Critics have also pointed out that financial sector liberalization in a pre-dominantly rural and agricultural economy may adversely affect economic growth and exacerbate rural-urban inequality. A market-based financial sector generally displays a bias towards

[66] The hypothesis of financial liberalization appeared to exert quite a considerable influence on policy developments in industrialising nations. As Hanna (1994: 1) notes:
Theories of the link between financial performance and economic growth, particularly as advanced by McKinnon (1973) and Shaw (1973), have been the basis for a series of financial reforms around the world, most prominently in the Southern Cone of Latin America , but also in Turkey, parts of Africa and East Asia.

the urban and commercial sectors due to perceived higher rates of return in these sectors. This is evident from the experience of countries that have liberalised their financial sector and allowed private sector banking operations. Most countries have seen the closure of rural branches of privatised banks and the cessation of their specialised credit facilities for agriculture and small-scale operations.[67] The problem of access to credit for the rural and agricultural sector can be exacerbated by the dismantling of government's credit facility programmes through specialised banks. As a result, the growth of agricultural and small-scale sectors may suffer which adversely affect the poor who depend predominantly on these sectors. Thus, financial liberalization may in fact increase poverty both through its growth inhabiting and inequality enhancing effects.[68]

The naive version of the financial liberalization hypothesis generally abstracts from problems of market failure that could afflict financial systems. One now has a clearer understanding of the implications of market failure. Such failure stems from a number of sources, such as externalities, the exercise of monopoly power by dominant banks and information asymmetries between borrowers and lenders (Kay and Vickers, 1988). Examples of externalities include the risk of systematic failure (that is, the notion that bank failures may be correlated, with actual or threatened failure in one case raising the risk of failure of another) and the so-called 'infection effect' (lowering of product and price standards through excessive competition). Concern has also been expressed that financial liberalization could unleash dominant firms that could exercise monopoly power (through excessive price-cost margins and erection of entry barriers) to the detriment of dynamic and static efficiency - see Vittas (1992) for a fuller exposition of these ideas.

Stiglitz (1989) has emphasised the central role that information asymmetries play in the market failure of financial systems. In essence, the argument is that banks do not have perfect information about the credit worthiness of borrowers. In such a context moral hazard and adverse selection problems could emerge: borrowers have an incentive to assume more risky projects when the cost of credit increases; the banks' reliable clients may be replaced by less solvent debtors because the former are indistinguishable from the latter. In such a context, interest rate 'overshooting' could occur (that is, rising to excessive levels to cover default risk), thus crowding out low-risk projects with high, ex-ante social rates of return. It is plausible that in the early stages of development information asymmetries are more acute, partly because of the lack of institutions that collect and disseminate credit information. The concerns for the possibility of interest rate over-shooting and moral hazard associated with risky behaviour of banks, (Hellmann, Murdock and Stiglitz, 2000) have suggested some control over interest rate which they call "financial restraint".[69]

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[67] This experience is not unique in developing countries. Many industrialised countries, such as Australia, experienced an exodus of banks from the rural areas following deregulation of the banking sector.

[68] See Chowdhury (2000) for an evaluation of financial sector reforms in Bangladesh which finds an urban bias.

[69] Financial liberalization may encourage perverse behaviour on the part of financial institutions, and thus enhance the risk of banking and financial crisis even in an otherwise well-functioning economy. As deposit interest rates rise following liberalization, banks have to raise their lending rates. This adversely affects the cash-flow situation of forms and increases the risk of defaults. Furthermore, higher lending rates cause the problem of adverse selection as they attracts risky borrowers. Additionally, the risk of banking crises is much more in countries where the institutional and regulatory framework is weak and corruption is widespread. The study by Demirguc-Kunt and Detragiache, (1998) shows that banking crises are more likely to occur in liberalised financial systems.

The disastrous results of financial reform in the 1970s in the Southern Cone countries and the 1997-98 financial crisis in Southeast Asia has made it clear that too much attention was given to the allocative aspects of the financial system. An issue of central significance related to market failures that characterise financial systems is prudential, organisational and protective regulation (Stiglitz and Weiss, 1981; Stiglitz, 1989), which was ignored in the haste of financial liberalization. The events in Southeast Asia and financial crises in liberalising countries have exposed the limitations of both the naive view of financial liberalization (or its nuanced version that emphasises sequencing of reforms). In particular, they indicate that financial liberalization increases the fragility of the banking sector. The problem becomes more acute in the absence of a proper prudential regulatory framework. The problem is compounded by increased capital flows.

Assessing the financial liberalization paradigm in the wake of Asian crisis, Cole and Slade (1999, p. 108) conclude:

"Painful as it may seem for those of us who have advocated this model, [the] recent crises compel us to reconsider whether it is possible to create in a few years the essential preconditions for a safe and sound, privately-owned financial system, operating in a free-wheeling globalized world, especially in developing countries that are still in the early stages of establishing effective, democratic political and legal systems."

At the very least, [the Asian] crisis should provoke a searching re-examination of the risks inherent in the pursuit of the strategy of liberalization and globalization, as well as exploring alternative approaches that might produce better results over the longer run for countries in different stages of the economic and political development process.

Can Financial Repression Be Good For Growth?

A number of authors have questioned the analytical foundations of the financial liberalization hypothesis by arguing that what is apparently perceived to be financial repression is really a case of efficient internal capital markets (Lee, 1992). Variants of this argument can be found in Wade (1988) and Amsden (1989). The Korean experience of the 1970s and that of Japan in the early phase of its industrialisation are often marshalled as evidence in favour of this intriguing view. It is argued that the empirical evidence in favour of financial liberalization is dominated by large repressions and hence does not invalidate the hypothesis that mild repression is enhances economic growth.[70]

In developing this argument, it would be useful to start with the distinction that Zysman (1983) makes between a capital market-based and credit-based financial system. In a capital market-based financial system, securities (stocks and bonds) are the main sources of long-term business finance. Borrowers can choose from a broad spectrum of capital and money market instruments offered competitively through a large number of specialised financial institutions.

[70] Incidentally, this is view is supported by the World Bank study of the East Asian economies (World Bank 1993) which finds that financial repression in the high performing Asian economies (HPAEs) has been mild as opposed to many other developing economies.

In a credit-based system, the capital market is weak and firms rely heavily on credit to finance investment. This makes them heavily dependent on banks - to the extent that banks are the main suppliers of credit. However, if banks are themselves dependent on the government, then firms become heavily dependent on the government. One thus has a case of a state-controlled, credit-based financial system. In such an institutional environment, financial repression (in the form control of credit allocation by the government) becomes the norm, and firms exhibit high debt-equity ratios.

Wade (1988) and Wade and Veneroso (1998) maintain that Korea and Taiwan can be characterised as exhibiting the classic features of government-dominated credit-based systems. During the 1970s, debt-equity ratios were 300-400% in Korea and 100-200% in Taiwan. The corresponding figures in such Latin American countries as Brazil and Mexico were 100-120%. In the industrialised countries, the figures were below 100%. Wade (1988) attributes this feature to much higher domestic savings ratios (30-40% of GDP) in Asia as opposed to 15-20% in industrialised countries. Households who prefer less risky bank deposits to equities largely do these savings. While households and governments are not significant net borrowers, the bank loans are biased to the corporate sector. Furthermore, in Taiwan, virtually the entire banking system has, until very recently, been government-owned. In Korea the same was true until 1980-83 and even after the financial deregulation of the mid-1980s, the government has exercised de facto control of the banking system through personnel policies, appointment of senior managers, range of services and the like.[71]

There are, according to the advocates of this view, distinct advantages that flow from the operation of a state-dominated, credit-based system. Wade (1988: 134), for example, identifies the following alleged advantages. First, '...a credit-based system permits faster investment in developing country conditions than would be possible if investment depended on the growth of firms' own profits or on the inevitably slow development of securities market'. More importantly, productive investment is less affected by speculative stock market booms and busts.

Second, a credit-based system tends to avoid the bias towards short-term profitability that often appears to be associated with a stock market system. This stems from the argument that lenders of long-term finance are interested in the ability of borrowers to repay the loans over the long-term. Hence, long-term performance becomes the dominant consideration entailing a focus on such issues as the ability of organisations to develop new products, cost competitiveness and so on. These therefore become the criteria that managers are concerned with rather than short-run performance in the stock market.

According to Wade and Veneroso (1998), such a financial structure requires co-operation between banks and firms and considerable support from the government. For the durability of the system the government must be ready to buffer firms' cash flow and supply of capital against 'systemic shocks', while not protecting firms from the conse-

[71] Assessing the financial sector reforms of the 1980s in Korea, Park (1994, p. 57) concluded, '[a]lmost every financial activity in Korea, including access to the banking sector, the determination of interest rates, and the allocation of credit, has been heavily regulated by the government'

quences of bad judgement. In Korea, for example, inefficient companies were often penalised, either by being required to undertake managerial or financial restructuring, or by allowing them to go into bankruptcy (Chang, 1998). A state-dominated financial system provides the government with the necessary political clout to implement its industrial strategy. As Wade (1988:134) puts it: 'firms are dissuaded from opposing the government by knowledge that opponents may find credit difficult to obtain.'

The notion that a credit-based financial system can be seen as a political device to assist governments in the implementation of industrial strategy is the crux of Amsden's (1989; 1991) argument that financial repression is an essential feature of 'late industrialisation' (of which Korea and Taiwan are classic examples). In her model of late industrialisation, governments deliberately use selective credit allocation in order to speed up the process of industrialisation. However, industrialising nations run the risk that costs of financial repression can outweigh its alleged benefits in the sense that it can provoke a subsidy mentality and induce wasteful rent-seeking behaviour. Yet, governments in late industrialisation can circumvent this difficulty by ensuring that abuse of preferential credit allocation is minimised through the imposition of strict performance standards. If such standards are based on good approximations of ex-ante social rates of return, then politically determined credit allocation will lead to socially profitable investments in "desirable" industries and sectors. Hence, financial repression will lead to rapid growth.

A more sophisticated argument in favour of financial repression stems from transactions cost economics which in turn relies heavily on the notion of information asymmetries. This view is closely associated with the work of Lee (1992) and can be characterised as the "internal capital market hypothesis".

As noted at a previous juncture, when information asymmetries between borrowers and lenders are high and pervasive, they can be a potent source of market failure. Under such circumstances, reliance on the "internal capital market" (reliance on finance generated through retained earnings or out of depreciation charges) can resolve market failure by reducing or eliminating the incidence of information asymmetries.

Lee (1992) has tried to adapt this argument to the East Asian case by suggesting that a state-dominated credit-based system operates as a de facto internal capital market. The state cultivates a long-term and close relationship with borrowing firms. The atmosphere of trust and co-operation created as a result of this close relationship allows "lender monitoring" to be carried out effectively and efficiently. The outcome is that information asymmetries (and transactions costs) are minimised. Hence, what is apparently considered a phenomenon of financial repression is in effect a de facto internal capital market that is more efficient than private capital markets - an interpretation that is endorsed by Dalla and Khatkhate (1995) in their evaluation of Korean financial reforms in the 1980s and 1990s.

The pace and nature of financial liberalization in East and Southeast Asia in the 1990s marked a significant departure from the "Asian development model" as implied by the growth-promoting financial repression view (Brownbridge and Kirkpatrick, 1998).

There are at least two areas where the departure has been quite crucial: control over external borrowing and state guidance of investment. For example, in Korea, deregulation of the financial sector in the early 1990s included the removal of restrictions on corporate debt financing and cross-border flows. Local companies and banks were allowed to raise money overseas without the traditional supervision and control. Likewise, the Thai government relaxed foreign exchange controls, granted offshore banking licenses, eased the rules governing non-bank financial institutions (NBFIs), and allowed finance companies to fund equity purchases on the margin. With the removal of interest rate controls or ceilings, the scope for investment guidance also diminished as market determined interest rates were increasingly relied upon for allocation of investible funds. Thus, it is argued that the financial crisis is not a result of the long-term close government-business-main bank relationship (a salient feature of the Asian development model) which has come to be known as "crony capitalism", rather it is the departure from the model which precipitated the crisis. In support of this argument, observers (e.g., Stiglitz, 1998a) also point to the bank failures in the 1990s in countries such as USA and Sweden that are fully transparent unlike the Asian crony economies.

While the above arguments are suggestive and interesting, one can construct cogent counter-arguments. First, one should be careful not to confuse a credit-based system with a *state-controlled* credit-based system. Financial repression is a necessary feature of the latter, not the former. More importantly, the major advantages of a credit-based system as identified by Wade do not require the existence of state control (and hence financial repression). The only way in which financial repression can contribute to economic growth in this framework is to presuppose that a strong-willed government has the capacity to overcome the inadequacies of private capital markets without the corresponding risk of government failure.

The hypothesis of the superiority of "lender monitoring" in a state-controlled financial system is also questionable when one takes account of the interactions between formal and informal credit markets. This point can be developed using an argument expounded by Cole and Patrick (1986). When formal financial institutions are regulated, informal credit markets expand. Such markets provide funds to those who cannot obtain credit from formal sources. In addition, privileged borrowers in regulated markets have an incentive to re-lend to users in unregulated markets (and hence profit from arbitrage). The net outcome is that informal credit markets act as a channel for diverting official (regulated) credit to more profitable investment opportunities, thus invalidating the notion that the state can effectively monitor the behaviour of borrowers. Some evidence can be offered to substantiate these arguments by focusing on the Korean experience. Thus, in 1972, approximately 50% of commercial firms in Korea financed their investment needs through the informal credit market. In addition, credit diversion was quite extensive (Cole and Patrick, 1986).

Relationship Vs. Arm's-Length Financial Systems

Rajan and Zingales (1998) have attempted to synthesise both "financial liberalization and "financial repression" views and provided a theoretical rationale for a relationship-

based financial system at an early stage of development and the need for a market-based system at a later stage. Their starting point is the dual primary roles of a financial system: (a) resource allocation and (b) return to financier. In an underdeveloped economy with a poor legal structure, a relationship based system which limits competition ensures a return to the financier by granting some control over the firm being financed. Without such assurances, funds would not flow in sufficient quantity to productive investment. Financiers attempts to secure their return on investment by retaining some kind of monopoly over the firms they finance. The "opacity" or lack of transparency act as a barrier to entry required for the maintenance of monopoly power.

A relationship-based system, which restricts competition, does not always yield sub-optimal results. It allows financiers (banks) to take a longer perspective in investment decisions, as they can use their monopoly power to charge above market rates in normal circumstances in return for an implicit agreement to provide financing at below market rates when the firms face short-term cash-flow difficulties. That is, the relationship-based system allows banks and firms to "internalise joint surplus" by trading off short-run losses for longer-run gains. This factor is borne out by examples such as Sumitomo Bank's guaranteeing of Mazda's debts during its trouble after the first oil-price shock and the rescue effort by exhorting employees within its "keirestsu" to buy Mazda cars.

However, when with economic growth the supply of capital increases and the number of profitable projects declines, price signals become essential in the selection of projects. And the price signal or a market-based system cannot work well unless there exists well developed institutions for enforcement of property and contractual laws and strong disclosure legislation as a guarantee of protection. Thus, which system works better depends on two factors: (a) the ratio of available capital to profitable investment opportunities and (b) the degree to which institutional development facilitates contracting. Table A.5 summarises outcomes of the two systems. As can be seen from Table A.5, both systems can work well when the available capital-investment opportunities ratio is low, but there is a strong legal system. The neither system works when the availability-opportunity ratio is high, but the legal system is very weak.

Table A.5: Conditions for Efficiency of Relationship-based and Arm's Length Financial Systems

Contractability	**Capital: Opportunity Ratio**	
(Quality of the legal system)	**Low**	**High**
Low	Relationship based	Neither
High	Both	Market based

This explains why the relationship-based system was congenial in the early stage of East Asian development, and why the very system failed at a later stage. When capital was scarce compared with profitable investment during the initial phase of development, it was not very difficult to determine projects with positive net present value without a well-functioning price signal. A relationship-based system did reasonably well in selecting profitable projects. It allowed firms to expand without being too sensitive to their operating cash flow and reap economies of scale and scope. Furthermore, since the

relationship-based system allows cross-subsidisation, banks could finance younger firms at below rates being compensated for above market rates for mature firms.

However, the institutional development lagged behind the extent of financial deepening with economic growth[72] and the pace at which the financial system moved towards a market-based system. As a result, the situation in Southeast Asia in the 1990s can be described by the lower right-hand corner – the co-existence of high capital availability-opportunity ratio and low contractability. The problem was compounded by the rapid inflow of foreign capital in huge quantities. To begin with, the foreign lenders (especially of short-term capital) do not have a long-term relationship with the local borrowers. Furthermore, their ability to effectively monitor loans was impeded because of a lack of transparency in the published account as Banks and NBFIs in Indonesia, Korea and Thailand did not apply international accounting standards in compiling audited accounts.

Managing the Financial System During the Process of Development: Towards An Appropriate Regulatory Framework

The preceding discussions have shown that both the naive version of the financial liberalization hypothesis and strident advocates of (East Asian-style) financial repression pay insufficient attention to the fact that the resolution of market failure that afflicts financial systems need an appropriate regulatory framework. An internal capital market - or more generally financial repression - can, in theory, resolve the problem of market failure, but the emerging conventional wisdom is that prudential and other regulations are essential for a stable, efficient and fair financial system and hence for economic growth. It is now generally agreed that inappropriate regulations and supervisory standards in a country not only retard its long-run economic growth but also increase the likelihood of a financial crisis that could spread beyond the country's own border.

Table A.6 - which draws heavily on Vittas (1992) - provides a simple framework that allows one to locate the importance of prudential and related regulations in the efficient management of financial systems. Table A.6 makes it clear that the liberalization/ repression debate has focused primarily on the allocative aspects of the financial system. This in turn reflects the stylised fact that in developing countries prudential, organisational and protective regulations were hardly considered, largely because information problems were given insufficient attention.

Although Table A.6 has set up the different types of financial regulation as seemingly mutually exclusive categories, in reality different regulations have effects that cut across their designated domain. Thus, global credit controls that stem from macroeconomic objectives also fulfil a prudential function to the extent that they restrain banks from imprudent expansion of credit. Furthermore, as Barth *et al* (1998) point out there is

[72] As Patrick (1966) noted, economic growth creates demands for financial services (so-called 'demand-following' expansion of the financial system); economic growth is also preceded by financial development (so-called 'supply-leading' evolution of the financial system). Disentangling this two-way causality is not an easy task, although Jung's (1986) analyses of fifty-six countries (which includes some of the Asia-Pacific economies) suggests that causality changes over the course of economic development. In other words, in the initial stages of development, supply-leading forces are dominant, while in later stages demand following forces are at work.

relatively little empirical evidence to support any advice regarding specific and comprehensive regulatory and supervisory reforms. This is because detailed cross-country comparisons of financial regulatory and supervisory systems for developing countries do not yet exist.

Table A.6: Types of Financial Regulation - Objectives and Key Policy Instruments

Type of Regulation	Objectives	Examples of Key Policy Instruments
Macroeconomic	Maintain control over aggregate economic activity - maintain external and internal balance	• Reserve requirements • Direct credit and deposit ceilings • Interest rate controls • Restrictions on foreign capital
Allocative	Influence the allocation of financial resources in favour of priority activities	• Selective credit allocation • Compulsory investment requirements • Preferential interest rates
Structural	Control the possible abuse of monopoly power by dominant firms	• Entry and merger controls • Geographic and functional restrictions
Prudential	Preserve the safety and soundness of individual financial institutions and sustain public confidence in systemic stability	• Authorisation criteria • Minimum capital requirements • Limits on the concentration of risks • Reporting requirements
Organisational	Ensure smooth functioning and integrity of financial markets and information exchanges	• Disclosure of market information • Minimum technical standards • Rule of market-making and participation
Protective	Provide protection to users of financial services, esp. consumers and non-professional investors	• Information disclosure to consumers • Compensation funds • Ombudsmen to investigate and resolve disputes

Sources and Notes: Adapted from Vittas (1992: 63)

However, based on their preliminary study of 50 countries and other studies, Barth *et al* (1998: 6) suggest the following initial steps that could be taken to reduce significantly the likelihood of banking crises:

- Develop and improve legal systems and information disclosure.
- Impose rate ceilings on bank deposits.
- Establish limits either on the rate at which banks can expand credit or on the rate of increase in their exposure to certain sectors, such as real estate.
- Require greater diversification of bank portfolios.

- Reduce the restrictions on the range of activities in which banks can engage.

Barth *et al* maintain that it is not possible to determine *apriori* which combinations are most appropriate for individual countries that are at different stages of development. Despite this caveat, it would be fair to maintain that the central purpose of prudential and organisational regulation is to deal with market failure associated with moral hazard, while protective regulation focuses on the need to design a 'fair' financial system that protects the interests of users of financial services.

Annex 5

Recommended Steps and Procedures

I-Macroeconomic Policies: Enhance investment and employment generation through Pro-Poor expansionary policies

I-1-Fiscal Policy

Objective	**Expenditure reduction and switching policies**
Impact	**Aggressive revenue generation efforts (12%-18% of GDP) Increase of non oil revenues to accumulate permanent productive wealth.**
Negative effects	**Reduces consumption but might crowd out private investment and can lead to inflationary consequences**

Practical steps and procedures	**Sequence**
Introducing a 10% General Sales Tax GST(3-5%of GDP)	Short term
Eliminating custom exemption and fighting smuggling(1% of GDP	Short term
Applying an excise tax on petroleum, real estate and large landholdings (1.5%-2%of GDP).	Short term
Strengthening the tax customs administration(0.5%-1%of GDP)	Short term
Additional tax on personal and corporate profit income(1% of GDP)	Short term
Eliminating petroleum subsidies (6% of GDP).	Short term (completed)
Containing defence spending to 3%-4% of GDP (1-2% of GDP). Keeping deficit under 10% of GDP	Short term
Maintaining a balance between expenditures and revenues at 20-25% of GDP	Short and medium term
Adopting budget reform measures such as: -Implementing effective methods to collect data and analysis, design appropriate criteria for evaluation, implementing existing laws, -delegate budget implementation to the line ministries and enforce budget monitoring.	Short and medium term
The establishment of an ODA-based stabilization fund to overcome the medium and long term problems of falling oil revenues and increase international borrowing	Short and medium procedure
Reducing civil wage bill (1-2% of GDP)	Mid term
Increase in development expenditure and maintain capital expenditure at 10% of GDP to build infrastructure in poor areas	Medium and Long term
Borrowing from the domestic private sector to raise increase the national savings.	Long term

I-B-Monetary Policy

Objective	**Reduce the benchmark interest rate and expand money supply through a gradual decrease in required reserve ratios.**
Impact	**Make credit cheaper and more readily available to the private sector.**

Practical steps and procedures	**Sequencing**
Discriminatory interest rates to target employment creation as well as maintain moderate rates of inflation (such as 10-15% per year)	Short term
Targeted credit policies for priority sectors to mandate loans to priority sectors which are employment intensive in agriculture and manufacturing and to poor households especially in rural areas.	Short term
Implementing Incentive based measures: • Banks would hold lower reserves for backing up loans to priority sectors (such as differential reserve requirements for banks). • Central Bank would draw on part of its large stock of foreign exchange reserves to open a special discount window for banks that agree to lend to priority sectors. • Lower reserve requirements for the reserves invested in such activities rather than for deposits invested in speculation	

I-C Foreign Exchange Policies

Objective	**Fostering Industrialization and Trade**
Impact	**Expansionary effect**

Practical steps and procedures Sequencing	
Depreciate the exchange rate. Restrictions on capital mobility by imposing restrictions on capital account on convertibility and restrict commercial banks from investment abroad.	Short term
Increase foreign reserves for six months	Medium and Long term

II-Adjustment Policies

II-1-Financial Reform Policies

Objective	**Improve financial intermediation and adopt pro-active sectoral credit policies**
Impact:	**Higher savings mobilization and credit provision**

Practical steps and procedures	**Sequencing**
Increase the supply for small business lending through creating liquidity and risk sharing institutions for loans for commercially viable small business, provide financial and administrative support for asset backed securities, which would give loans to small business and open a special discount window facility to offer credit guarantee or discount facilities to institutions that are on lending to firms engaged in commercially viable employment intensive activities.	Short term
Creation of several specialized credit institutions (microfinance institutions) to provide needed funding. Enhancing the several projects enhancing lending to small establishments such as the: • Local Community Development Programme • Micro Start Programme • Micro and Small Enterprises Development Programme • Small Enterprises Development Unit (SEDU).	
Stipulate regulations requiring commercial banks to diversify a certain percentage of their lending operations to rural areas and priority sectors to increase soft loans to sectors of priority.	Short and medium term
Lower interest Rates	Short and medium term
CBY sets lower reserve requirements for the deposits invested in employment generating activities.	Short and medium term
Shift in investment from TBs & CDs to commercially viable small business.	Short and medium term

II-2-Trade Liberalization

Overall objective	**Increase competitiveness of Yemeni products and increased non oil exports and improve trade balance**
Impact	**Expand productive employment**

Practical steps and procedures	**Sequencing**
Build an investment fund and a special fund for human development	
New innovation to apply new technologies in the production process, industrial processing and management.	
Adoption of operational Industrial Labour Market Information Systems, and local competitive capacities in the areas of Marketing, Maintenance and Quality Control – as well as the availability of industrial parks.	Medium term
Implementing fiscal and other incentives as well as a better enforcement of regulations (on trade/anti-dumping, and competition), a clear and coherent industrial development strategy formulated in consultation with the domestic private sector would create a more predictable and enabling environment for domestic investment in productive sectors	
Improving the links between the educational and training system in Yemen. Improve the quality of the different vocational training centres (VTCs). Improve the incentives for enterprises to promote investment in ongoing and in-house training to make it a demand oriented system.	
Adopting more sophisticated marketing skills to target specific products and markets (such as leather products and handicrafts) and focus on upgrading certain exports (such as natural honey and coffee)..	
Upgrade the conformity and assessment procedures (which include testing, certification and accreditation) since all exporters of animal and vegetable products have to meet the sanitary and phytosanitary standards of industrial countries	
Improving Yemen's free trade zone, which suffered from idle undeveloped land to the overlapping of jurisdictions with respect to different zone activities?	Short and Medium term
Solving titling and property rights problems.	
Build adequate technically qualified and experienced personnel able to master WTO issues and handle negotiations.	Mid and long term
Raise awareness among the whole society, regarding WTO issues, such as enquiry that deal with services, standards, and IPR. Upgrading the manufacturing base to reach a more diversified basket of non oil merchandise exports.	
Implementing of non conventional options for enhancing trade and investment such as offset-agreements, where the purchase of weapons from a developed country is complemented by direct foreign investment in civil industries.	Mid and long term
Establish appropriate linkages with the rapidly changing global environment. The application of new management techniques and promotion of standards and quality assurance are necessary condition for entering international markets. The HACCP (Hazard Analysis Critical Control Points) system is a necessary qualification for winning contracts from the European Union and other developed countries.	
Upgrading institutions to make them consistent with the relatively more advanced ones in the GCC countries.	
Participation in regional value chains and specialization in areas where Yemen has competitive	Long term

III-Complementary Policies

III-A-Structural Reforms

Objective	**Remove constraints in the way of the effective participation of the poor in economic activities**
Impact	**Increased incomes of the poor**

Practical steps and procedures Sequencing	
Boost economic activity (through provision of basic infrastructure such as electricity, gas, water and roads)	Short and medium
Promotion of a more conducive business environment, improve the legal certainty and enforce ability of contract, simplifying licensing, fees and taxes and reducing cumbersome administrative procedures, official harassment and corruption Elimination of barriers to business establishment and establishing of technical advisory services that could facilitate the development of micro enterprises.	Medium term
Implementing economic growth 'from below', among the self-employed, micro-entrepreneurs and small enterprises and enabling small enterprises, which are often deprived of resources and public support, to grow rapidly into medium-sized firms with a potential to provide decent-paying jobs.	
Diversify the economy and supporting sectors with growth and employment potential. Boosting manufacturing to create productive and decent-paying employment, relying principally on the growth of medium-sized and large enterprises. Substitution of qat with other agricultural commodities, such as coffee, fruits and vegetables, which have strong export potential. Fishing is a sub sector with proven growth potential. Boosting tourism is exploiting Yemen's potential in providing port facilities for shipping.	Medium and long term

III-B-Social policies

Objective	**Investment in human capital**
Impact	**Raise the productivity of the poor**

Practical steps and procedures	**Sequencing**
Enhance productive capacities and advance human development (such as for greater health and education) and in particular for the poor in agricultural sector by making the Central Bank use its foreign exchange reserves to set up a specialized investment funding agencies to help increase private sector investment in human capital.	Medium and long term
Social welfare fund better focused to increase the amount allotted to poor areas	Long term procedure

III-C-Redistributive polices

Objective	**Support the poorer rural households living under the compulsion of food insecurity**
Impact	**Lead to sustained growth in agricultural productivity and create positive preconditions for relatively poorer rural households to sustain further income growth by diversifying their incomes and supporting start ups**

Practical steps and procedures	**Sequencing**
Reallocate expenditure from the social welfare fund to small scale community infrastructure	*Increase of physical investment*
Re-orient fiscal policies in order to channel the revenues and provide financial transfers to finance widespread public investment in basic economic and social infrastructure.	
Reduce the role of qat and force farmers to alter their cropping patterns (a transition period is still needed to liberalize the import of qat) This procedure should be financed by a hypothecated tax on oil revenues and may be applied also to qat.	Short term
Redirect government spending on the agricultural sector, and enhance the role of the government in facilitating increased agricultural productivity and rural incomes.	Short and medium term
Land tenure and redistributive land reform through formalization the land registration process and formally registering sharecropper contracts and establish the security of tenure of those with formally registered contracts. Enhance debate around redistributive land reform in Yemen as market-led reform in redistribution of land could be in favour of rural landed elites. Policies to encourage a pro-poor consolidation of fragmented holdings, in the sense that the overall share of landholdings held by the smallest 60% of landholders increases relative to that held by the largest 40% of landholders, would be encouraged. government. A successful cadastre is a necessary precondition of tenancy reform.	Long run

III-D-Poverty focused activities

Objective	**Lead to sustained growth in agricultural productivity and create positive preconditions for relatively poorer rural households to sustain further income growth by diversifying their incomes and supporting start ups.** *More small-scale interventions that have a greater poverty reduction focus.*
Impact	**Lead to sustained growth in agricultural productivity and create positive preconditions for relatively poorer rural households to sustain further income growth by diversifying their incomes and supporting start ups.**

Practical steps and procedures	**Sequencing**
Adopting system of income support to farmers that are actively engaged in switching to higher value more resource efficient crops.	
Implement a food price stabilization programme and de-link the food price inflation from international prices and eliminating poverty enhancing food price inflation to free the CBY to adapt a more flexible approach to exchange rate management to prevent overvaluation of the exchange rate	Short term
Better extension services, to provide advice on cropping patterns, resource allocation, and resource management, as well as marketing services.. These services would in particular allow the faster identification and exploitation of markets for niche products both within and outside Yemen..-	Short term
Assist farmers in locating niche markets for higher value, more resource efficient, products, improve packaging, storage, and transport, as well as providing timely information on prices and markets, public support through the construction of storage facilities and the improvement of transport networks to allow crops to reach wider markets.	
Diversification of farm diversification amongst relatively poorer small landholder farms, in both rain-fed and groundwater irrigated regions of Yemen to eliminate the effects of the market-led diversification of agriculture, which has enforced food insecurity, inequality and poverty processes and will increase the lack of resources at the disposal of relatively poorer small landholder farms.	
Calculation of the economic rate of return and implementation of differential price schemes that would benefit the relatively less well off to a greater degree than the relatively well off.	Short term
Focusing of public resources on small-scale, labour-intensive public works, such as rural roads, wells or irrigation wells.	Short and medium term
Public support towards publicly provided agricultural extension services practices to quadruple the agricultural output in between 5 to 10 years through: Provide extension advice on cropping patterns, resource allocation, and resource management, as well as marketing services that can assist farmers in locating niche markets for higher value, more resource efficient products. Improvement in fruit and vegetable production by 16% per annum. Livestock could be increased, if husbandry will be improved. Cotton, dates, papaya, oranges, coffee, grapes, and tomatoes are highly efficient in their use of resources, while qat, onions, sesame, sorghum, millet, alfalfa and potatoes are	Short and medium term

relatively efficient uses of resources.	
Encouraging community driven development to complement the activities of the market and the state to assist in the building of infrastructure, improving access to education, organizing the delivery of microfinance, managing natural resources and permitting the scaling up of pro-poor programmes through: Promote local empowerment, participatory governance, demand-responsiveness, administrative autonomy, greater downward accountability, and enhanced local capacity. Finance accountable and inclusive community-based organizations as well as attempting to forge functional links between community-based organizations and formal institutions Facilitate the purchase of processing and packaging equipment, or cultivation or harvesting equipment, all of which could be owned communally, as well as providing loans for consumption shortfalls.	Midterm
Enhance water management systems by Bringing the price of groundwater closer to its economic cost, establishing decentralized water management associations. Prioritize access to those who have inadequate water supplies. Encouraging the re-establishment of traditional water conservation mechanisms in rain-fed areas, as a policy priority. Substantial public investment in water saving technologies and the introduction of drought resistant higher value crops such as fruit trees, and investment in renewing terraces and land levelling so that dry rain-fed terraces and seasonal flood irrigation practices can be resurrected and modernization of the dryland terraces and seasonal flood irrigation practices Decentralized democratic governance reforms to be able to assist in the reiteration of the rights of communities to water. Water taxes as a means of recovering some of the subsidies that were paid to the rural elite and encouraging the more efficient use of water in the irrigated areas.	Long term